

# Manufacturers Record

Reg. U. S. Pat. Office

## Industry Construction



\$6.50 per Year  
Single Copy, 20 Cents

Baltimore, Md.  
FEBRUARY 12, 1931

## Racketeering



The nefarious work of gangsters and racketeers in our large cities appears to be growing. The Attorney General of New York County who organized a special committee of 50 representative citizens to cooperate in an effort to rid New York City of racketeers defines a "racket" as "the domination of organized lawlessness over legitimate business." His investigation revealed that racketeers coerce the workman, the merchant, the manufacturer and the financier. Employers are forced to place on payrolls men who are not needed and have no intention of working; merchants are forced to overcharge customers and split the excess with the racketeer; the merchant is blackmailed into falsifying bills and charging for what he has not furnished. His compliance is induced by threats of sabotage, personal injury or death.

It is encouraging to observe that Chicago, New York and some other cities are beginning to wage real warfare against this type of criminal. And therein lies a danger for other localities, as the racketeers will probably scatter to new fields. While the South is not entirely free of the gangster and his kind, it may well be on guard against this possible influx. This evil element must be kept out of the South.

Native American stock predominates in the Southern states. More than 92 per cent of the people of this area are of native stock, while in such centers as New York and Chicago native Americans are only 25 per cent of the total population. Criminals of foreign extraction were admitted to this country when our immigration laws were more liberal, and today undoubtedly they are causing most of the trouble.

Vigorous action by Southern police power, and quick administration of justice will show gaudom that it has no place in the South. Evidence of this is found continuously in the city of Baltimore, where it is a notable fact that crime is proportionately much less than in other large centers, and punishment follows much more swiftly. Swift punishment is a strong deterrent to criminal activity.

# Featherweight Concrete

INSULATING ROOF SLABS



**HAYDITE** aggregate, used instead of sand, through its millions of trapped air cells, makes a concrete, different and better than any other structural roof material known.

Better because lighter for the same strength (as low as 10 lbs. per sq. ft.); better because of an insulating value never before obtainable in concrete.

Featherweight slabs have brought a new era to roof construction—fewer and lighter steel purlins, undoubted permanence, fire-safety, freedom from all maintenance. No painting required.

These are facts, substantiated by every day experience on innumerable prominent buildings—public, industrial, utility and railroad—all over the country. "Catalog and Roof Standards" on request.

Featherweight Concrete slabs are also available with nailing surface for fastening ornamental covering.

**10**  
**POUNDS**  
*Per Square  
Foot*

Made, Laid and Guaranteed by

**FEDERAL-AMERICAN  
CEMENT TILE CO.**

Executive Offices: 608 South Dearborn Street . . . . . Chicago  
Plants near CHICAGO . NEW YORK . PITTSBURGH . BIRMINGHAM  
FOR OVER A QUARTER CENTURY



**The NORTHWEST**  
 shovel reaches up  
 and out beyond the  
 boom without the  
 hoist pulling  
 against the  
 crowd - *This*  
*eliminates cable*  
*strain and*  
*speeds spot-*  
*ting the*  
*dipper*

THIS  
 IS  
 PAGE  
 3

**NORTHWEST  
 ENGINEERING COMPANY**

*The world's largest exclusive builders  
 of gasoline, oil burning and electric  
 powered shovels, cranes and draglines*

1733 Steger Bldg. 28 E. Jackson Blvd.  
 Chicago, Illinois, U. S. A.

**Branch Offices:**

351 Whitehall St.,  
 Atlanta, Ga.

1221 S. Lamar St.,  
 Dallas, Texas

1325 Macklind Ave.,  
 St. Louis, Mo.

816 Howard Ave.,  
 New Orleans, La.

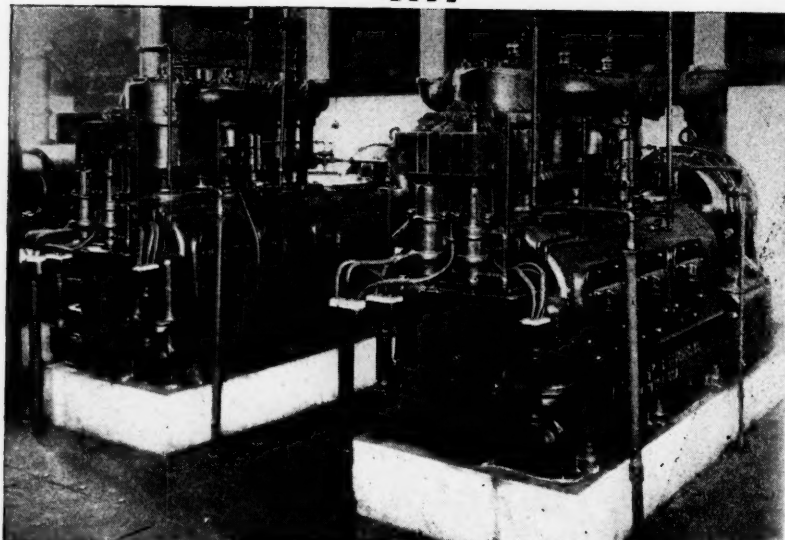


MH2-12 Gray

**Over Half**  
 of all Northwests  
 Sold are Shovels

**NORTHWEST**

*Where* **DURABILITY** *is outstanding*  
*there you'll find*



## **WESTINGHOUSE- NATIONAL Air Com- pressors**

**WESTINGHOUSE TRACTION BRAKE CO.**  
*Industrial Division* . . . **PITTSBURGH, PA.**

**T**rouble-free service year after year is common with Westinghouse-National Air Compressors. They are built to endure. Reliability and low maintenance are their outstanding characteristics. Hundreds of them are being used in factories, with marked success, for every conceivable pneumatic requirement... The two machines illustrated-3VS-24, 335 cu. ft. displacement - have been in constant service day and night since 1923, furnishing air for yard charging and shop use. No maintenance work has been needed during this time other than the grinding of valves, and the compressors are good for many more years of service. Scores of their predecessors have been in use for fifteen to twenty years. . . . .

## HYDRAULIC LIFTING OF PLUG ASSURES UNIFORM DISTRIBUTION OF LUBRICANT . . .

It is of utmost importance that a uniform distribution of lubricant be obtained in a lubricated valve. Otherwise, channels may remain unlubricated, causing leaks.

Positive uniform distribution of special "Merco" lubricant is achieved in the Nordstrom Valve every time the plug is lifted by hydraulic pressure in the operation of the patented Nordstrom method of "Sealdport" Lubrication. This lifting of the plug separates the seating surfaces so that a uniform distribution of lubricant can be obtained. This not only seals the valve tight against leaks but also protects the metal surfaces against wear.

Cup grease should never be used in Nordstrom Valves. For the most efficient service, always use "Merco" Lubricant, prepared especially for Nordstrom Valves. There is a "Merco" Lubricant for every valve service and our engineers will gladly recommend the lubricant best adapted to your requirements.

For tight pipe joints, always use "Merco" Pipe Compound. Easy to apply. Economical to use. Ask for latest Catalog.



## ALL CHANNELS ARE LUBRICATED

## VALVE IS SEALED TIGHT AGAINST LEAKS

## METAL SURFACES ARE PROTECTED

### MERCO NORDSTROM VALVE COMPANY SUBSIDIARY OF THE MERRILL COMPANY . . ENGINEERS

Atlanta - Healy Bldg.  
Boston - 124 Boylston St.  
Buffalo - Genesee Bldg.  
Charleston - W. Virginia  
Chicago - 176 W. Adams St.  
Dallas - Marnolia Bldg.  
Detroit - 2842 West Grand Blvd.  
El Paso - 111 So. Virginia St.  
Houston - Petroleum Bldg.  
Los Angeles - 556 So. San Pedro St.  
New Orleans - Masonic Bldg.  
New York - 11 W. 42nd St.  
Pittsburgh - Clark Bldg.  
St. Louis - 817 N. Eleventh St.  
San Francisco - 343 Sansome St.

Agencies:  
Saginaw - Arthur C. Beckert, 112 Durand St.  
Salt Lake City - National Equipment Co., 101 West 2nd South St.  
Tulsa - R. V. Emery & Company, 216 E. Brady Street  
Also Sydney, N.S.

Factories in U. S.:  
Oakland, Calif. and Belleville, N. J.  
Winnipeg, Vancouver.  
England - Audley Engineering Co., Ltd., Newport, Shropshire.  
Buenos Aires, Argentina - General Electric, Soc. Anon., Victoria 618 Esq. Peru.

Denver - Republic Supply Company, 302 Continental Oil Bldg.  
Honolulu - W. A. Ramsay Co., Ltd., Fort & Queen Streets  
Philadelphia - Brown, Wilson & Company, 1600 Arch St.

Canada - Peacock Bros., Ltd., Montreal.  
England - Audley Engineering Co., Ltd., Newport, Shropshire.  
Buenos Aires, Argentina - General Electric, Soc. Anon., Victoria 618 Esq. Peru.



## NORDSTROM VALVES

THE PERFECT  
APPLICATION OF  
A PRINCIPLE

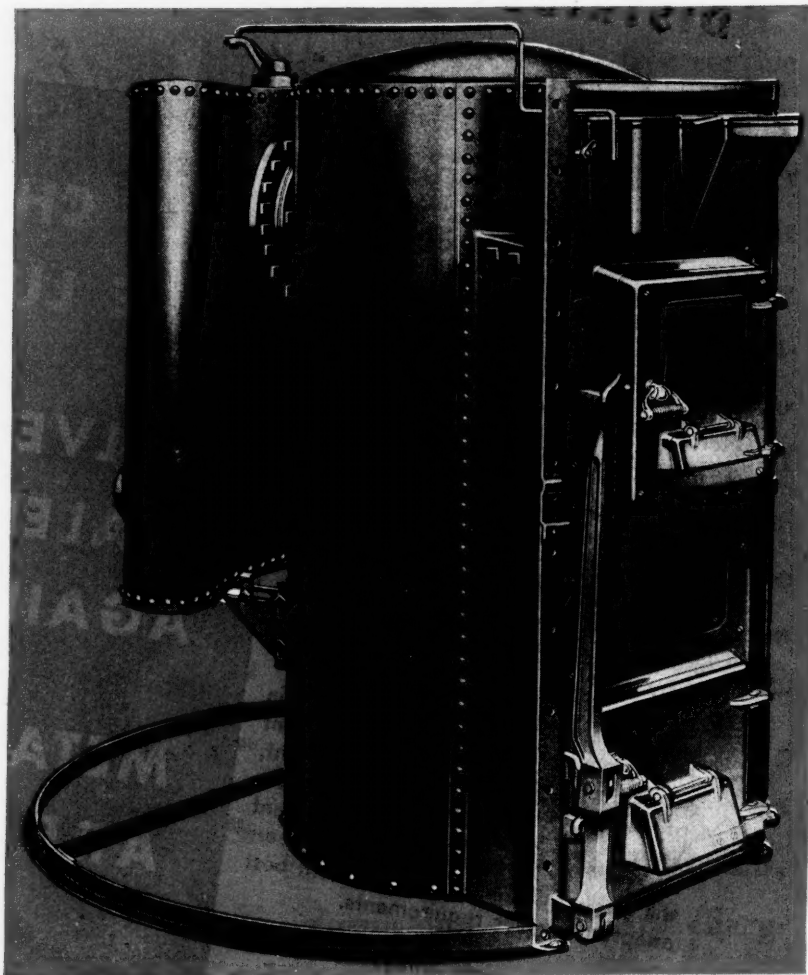


# Workability PLUS Durability

MANUFACTURERS of products fabricated from sheet steel will find in Youngstown sheets and plates the dual advantage of easier fabrication and a more durable finished product.

Because they are so easy to form, stamp, draw, seam and weld, Youngstown sheets and plates effect decided economies in fabricating processes; because they are so uniform, durable and take such a fine finish, they produce a more lasting product.

Investigate Youngstown sheets and plates for your particular needs. Youngstown products are stocked by leading jobbers everywhere.



*A modern furnace, fabricated from Youngstown steel sheets.*

## THE YOUNGSTOWN SHEET AND TUBE CO.

*One of the oldest manufacturers of copper-steel, under the well-known and established trade name "Copperoid"*

General Offices: YOUNGSTOWN, OHIO

### DISTRICT SALES OFFICES:

ATLANTA . . . Healey Building	KANSAS CITY, MO. . . Commerce Building	PITTSBURGH . . . Oliver Bldg.
BOSTON . . . Chamber of Commerce Building	LOS ANGELES . . . 3000 Santa Fe Avenue	SAN FRANCISCO . . . 55 New Montgomery Street
BUFFALO . . . Liberty Bank Bldg.	MEMPHIS . . . 42 Keel Avenue	SEATTLE . . . Central Building
CHICAGO . . . Conway Building	MINNEAPOLIS . . . Andrus Bldg.	ST. LOUIS . . . Louderman Bldg.
CINCINNATI . . . Union Trust Building	NEW ORLEANS . . . Hibernia Building	YOUNGSTOWN . . . Stambaugh Building
CLEVELAND . . . Terminal Tower Building	NEW YORK . . . 30 Church Street	LONDON REPRESENTATIVE:
DALLAS . . . Magnolia Building	Hudson Terminal Building	The Youngstown Steel Products Company, Dashwood House, Old Broad Street, London, E. C. Eng.
DENVER . . . Continental Oil Bldg.	PHILADELPHIA . . . Franklin Trust Building	
DETROIT . . . Fisher Building		

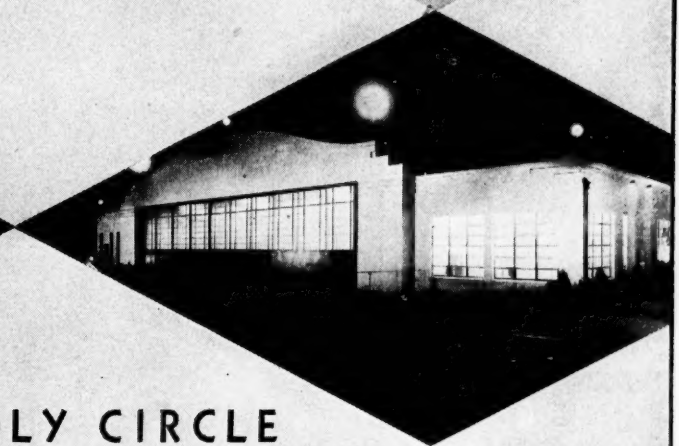
# • YOUNGSTOWN •

GALVANIZED SHEETS PROTECT • SAVE WITH STEEL

210 ft. Plate Girder Swing Span  
Seaboard Air Line R. R.  
Hopewell, Va.



Hangar, Southwest Air Fast Express  
Tulsa, Okla.  
The Austin Company  
Engineers



## THE KINDLY CIRCLE

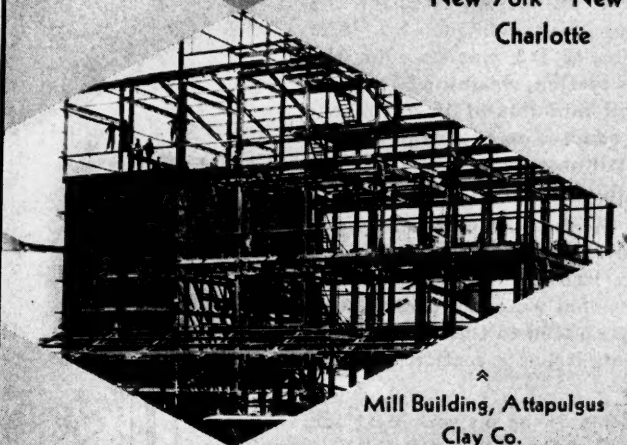


Being able we have done,  
and doing—for over 35 years—  
has made us more able.

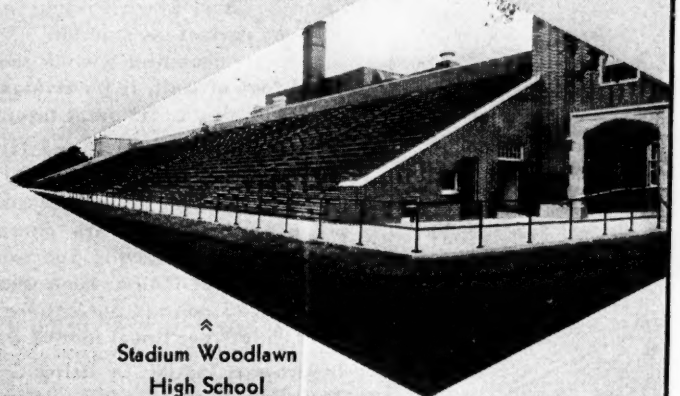


### VIRGINIA BRIDGE & IRON CO.

Roanoke Birmingham Memphis Atlanta  
New York New Orleans Los Angeles  
Charlotte Dallas El Paso



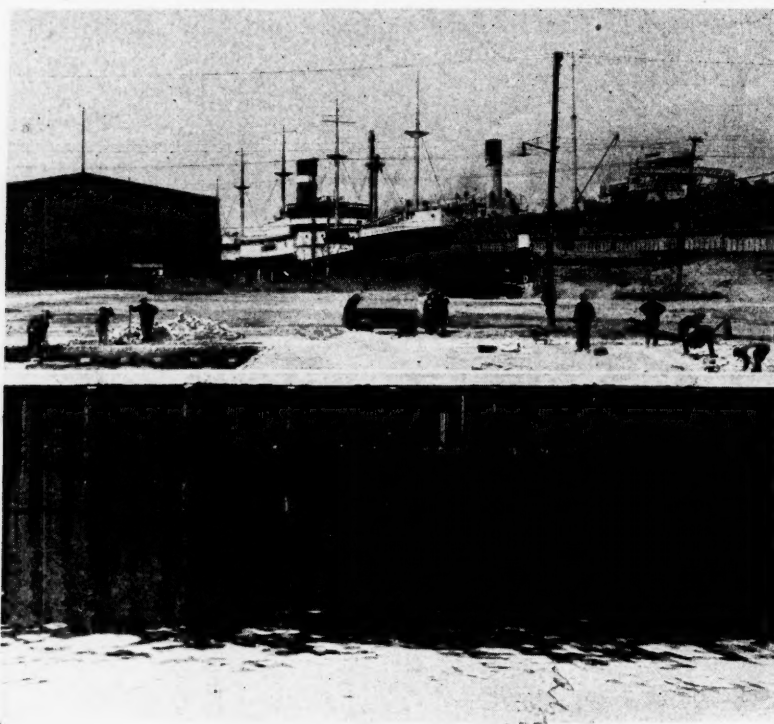
Mill Building, Attapulugus  
Clay Co.  
Attapulugus, Ga.



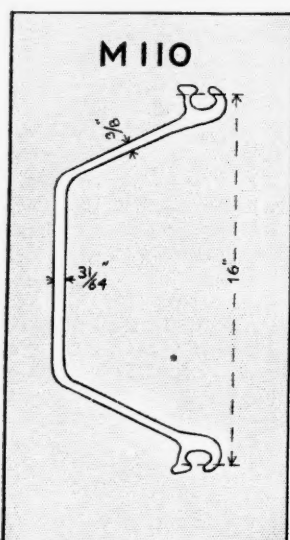
Stadium Woodlawn  
High School  
Birmingham, Ala.

# VIRGINIA BRIDGE

## STEEL STRUCTURES



# CARNEGIE PILING FOR WHARVES AND SEA WALLS



**T**HE Bulkhead at Brooklyn, a typical sea wall installation, was recently constructed by A. M. Hazell, Inc., for the Department of Docks, City of New York, Contract No. 1973. Carnegie Steel Sheet Piling, Section M 110, was used for the job with perfect satisfaction. This section, weighing 32 pounds per square foot and with a section modulus of 15.26 in.<sup>3</sup> per lineal foot of wall, is particularly adapted to this type of construction, due to its great lateral stiffness.

Carnegie Steel Sheet Piling is rolled in an efficient range of weights and sizes, including both straight and arch web sections, to cover every possible condition requiring the use of piling. All sections are characterized by unusually strong interlocks, easy driving and exceptional watertightness. Arch web section M 114 has been recently added to the list. Weighing only 25 pounds per square foot, it has a section modulus of 10.95 in.<sup>3</sup> per lineal foot of wall.

Insure satisfaction by using Carnegie Piling on your next job. The services of trained engineers are at your disposal.

CARNEGIE STEEL COMPANY, PITTSBURGH, PA.  
Subsidiary of United States Steel Corporation 118



# CARNEGIE STEEL SHEET PILING



# TENNESSEE

## TRACK FASTENINGS



Careful selection of track accessories is an important step toward the elimination of maintenance worries and expense. To stand the severe strains to which they are subjected in service, a sturdy tenacity must be built into these products through the use of the very best materials and manufacturing methods. Tennessee accessories are produced with an emphasis on quality and every care is exercised in their making to the end that they may render to the fullest extent the important service required of them.

## TENNESSEE COAL, IRON & RAILROAD COMPANY

General Offices: Brown-Marx Building, Birmingham, Ala.

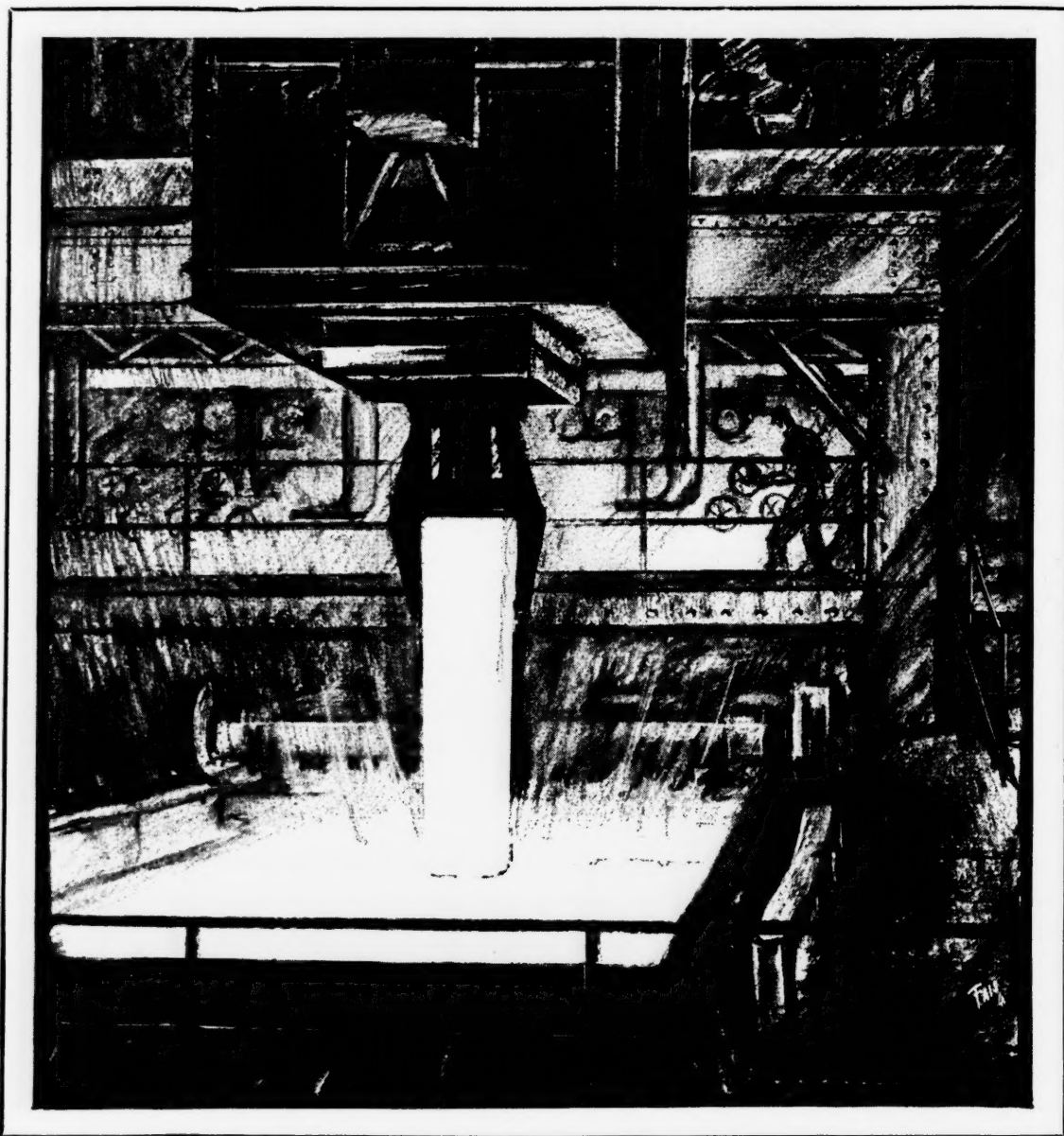
*Subsidiary of United States Steel Corporation*

AMERICAN BRIDGE COMPANY  
AMERICAN SHEET AND TIN PLATE COMPANY  
AMERICAN STEEL AND WIRE COMPANY  
CARNEGIE STEEL COMPANY

PRINCIPAL SUBSIDIARY  
COLUMBIA STEEL COMPANY  
CYCLONE FENCE COMPANY  
FEDERAL SHIPBUILDING AND DRY DOCK COMPANY  
Pacific Coast Distributors—Columbia Steel Company, Russ Building, San Francisco, Calif.

MANUFACTURING COMPANIES  
ILLINOIS STEEL COMPANY  
MINNESOTA STEEL COMPANY  
NATIONAL TUBE COMPANY

OIL WELL SUPPLY COMPANY  
THE LORAIN STEEL COMPANY  
TENNESSEE COAL, IRON & R. R. COMPANY  
UNIVERSAL ATLAS CEMENT COMPANY  
Export Distributors—United States Steel Products Company, 30 Church Street, New York, N. Y.



## *Down, down . . . into the Soaking Pit*

**A** RED ingot of acid steel from the open-hearth mill. Now it is going into the soaking pit to insure thorough, uniform heating throughout. Then, sparkling white—on through to the blooming mill. Seemingly endless are the operations in the making of Roebling Wire Rope. Each calls for a highly specialized skill and experience. Fine craftsmanship prevails throughout the entire range.

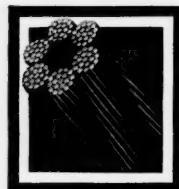
At Roebling the most modern of

manufacturing methods and machinery are daily producing thousands of feet of Roebling "Blue Center" Steel Wire Rope. But tradition plays a part, too. It is old-fashioned thoroughness that guards that extra measure of service for which Roebling Rope is noted.

**JOHN A. ROEBLING'S SONS COMPANY**  
TRENTON, N.J. *Branches in Principal Cities*

WIRE • WIRE ROPE • WELDING WIRE • FLAT  
WIRE • COPPER AND INSULATED WIRES AND  
CABLES • WIRE CLOTH AND WIRE NETTING

# ROEBLING



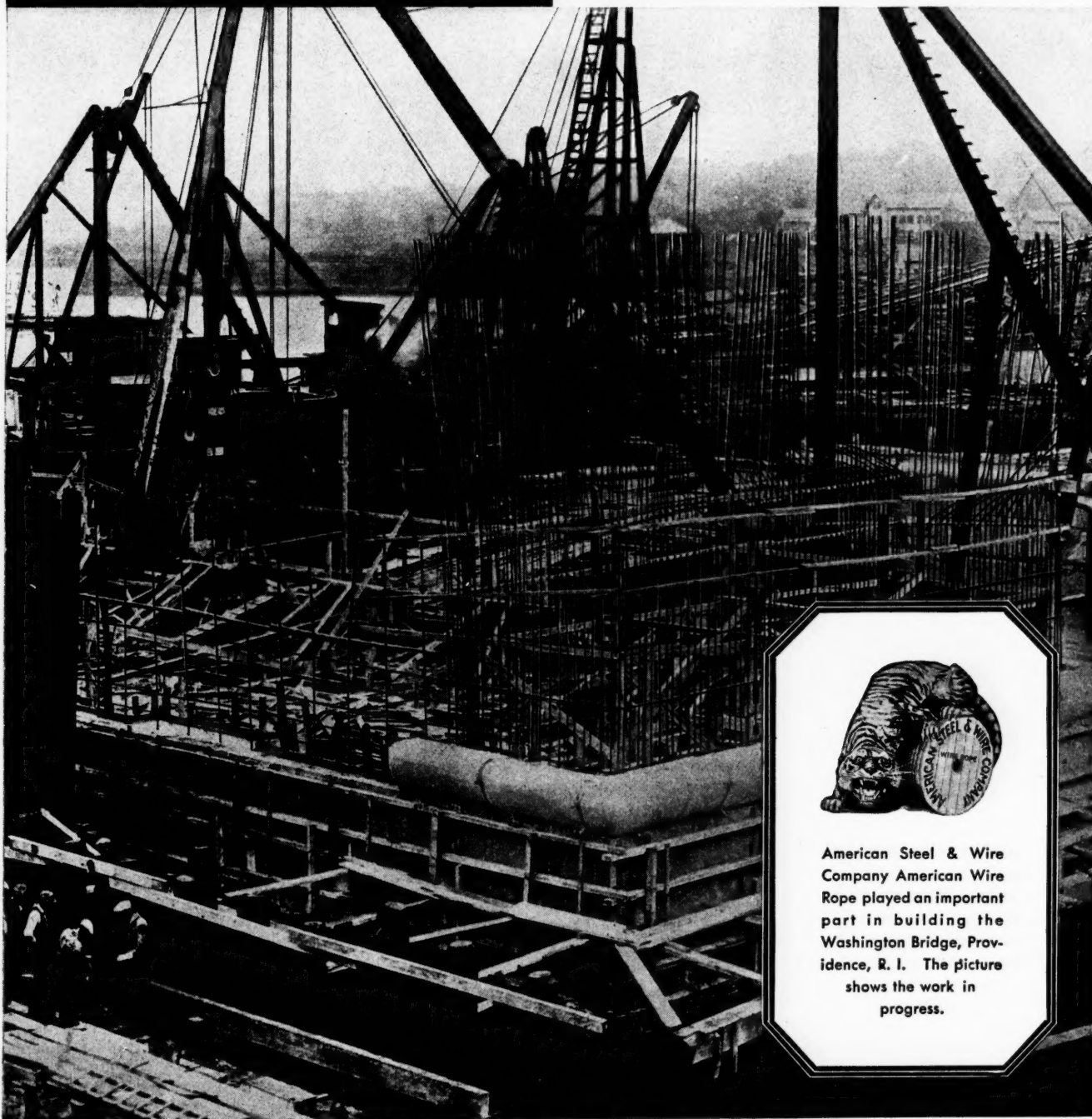
"BLUE CENTER"  
STEEL

# WIRE ROPE

# AMERICAN STEEL & WIRE COMPANY WIRE ROPE

## Meets . . . . . Every Construction Demand

Only an outstanding degree of superiority in construction work, could have won an almost universal demand for American Steel & Wire Company Wire Rope. Ability to stand up under the most gruelling punishment—marked reduction in replacement costs—and constant dependability, are reasons why it is generally specified. Made by the American Steel & Wire Company—you are assured of dependable service and a rope exactly suited to your needs. Today—consult our nearest office or distributor.



American Steel & Wire Company American Wire Rope played an important part in building the Washington Bridge, Providence, R. I. The picture shows the work in progress.

1831



1931

## AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago  
Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco

SUBSIDIARY OF UNITED



STATES STEEL CORPORATION

And All Principal Cities

Export Distributors: United States Steel Products Company, New York



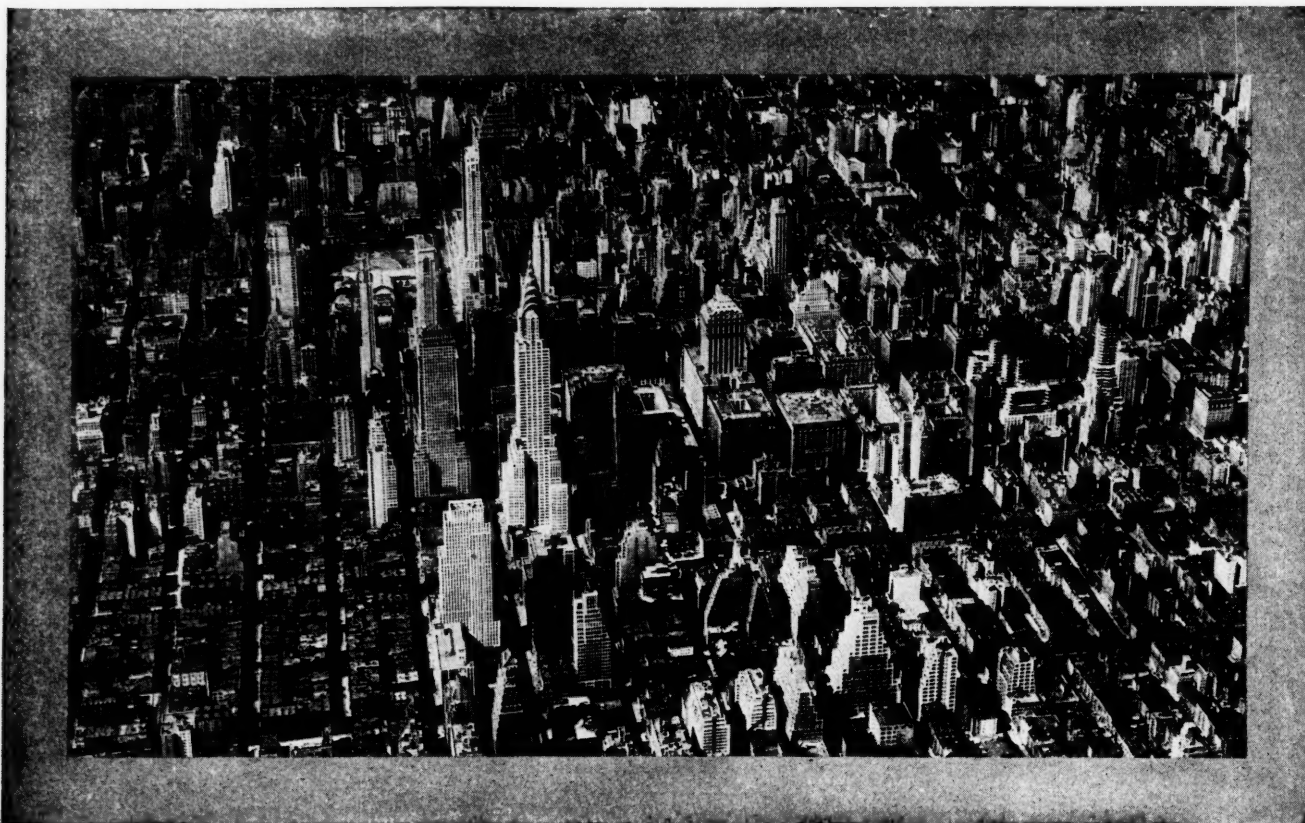


Photo by Fairchild Aerial Survey, Inc.

## Over 4000 miles of CAST IRON MAINS distribute water in the City of New York

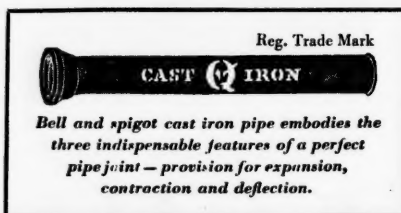
The water system which supplies the City of New York is regarded as one of the engineering wonders of this age. The chief supply line begins far up in the Catskill Mountains where a tunnel 18 miles long brings the water to the Ashokan Reservoir. Thence, a gigantic aqueduct traverses several valleys by pressure tunnels and passes under the Hudson by means of a remarkable inverted syphon, 3000 feet long and 14 feet in diameter. This syphon is bored through solid rock and lies 1,100 feet beneath the river bed.

That New York looks far to the future in planning her great water system is evidenced by the fact that long-lived cast iron pipe has been used for the majority of the distribution mains. Today more than 4000

miles of cast iron mains, in sizes from 4-inch to 60-inch, distribute water to every section of the city.

The reason for the long life of cast iron pipe is its effective resistance to rust. Cast iron is the only ferrous metal for water and gas mains that will not disintegrate from rust. This characteristic makes cast iron pipe the most practicable for underground mains, for rust will not destroy it.

The Cast Iron Pipe Research



Association offers to taxpayers, engineers and city officials, detailed information regarding the use of cast iron pipe for gas, water, sewers, culverts and industrial needs. Address: The Cast Iron Pipe Research Association, Thomas F. Wolfe, Research Engineer, 122 South Michigan Avenue, Chicago, Ill.

Cast iron pipe bearing the "Q check" trade mark is obtainable from the following leading pipe foundries: Alabama Pipe Company, Anniston, Ala.; American Cast Iron Pipe Company, Birmingham, Ala.; James B. Clow & Sons, 219 N. Talman Avenue, Chicago, Ill.; Donaldson Iron Company, Emaus, Pa.; Glamorgan Pipe and Foundry Company, Lynchburg, Va.; Lynchburg Foundry Company, Lynchburg, Va.; National Cast Iron Pipe Company, Birmingham, Ala.; United States Pipe and Foundry Company, Burlington, N. J.; Warren Foundry and Pipe Company, 11 Broadway, New York.

# CAST IRON PIPE

# *The* **SPEED and STAMINA** *that Road Building Demands*

**Greater Yardage  
at Lower Cost**

**A  
COMPLETE  
LINE  
1/2 to 3 1/2  
cu.yds.**

**E**XPERIENCED road contractors know that road work is tough on shovels. Up-hill-and-down travel—skidding into ditches—breaking through culverts—working at all angles and on all kinds of footing—tree roots—hidden boulders—those are the things that take a toll from a shovel; the things which make a P & H Shovel stand out.

P & H Shovels take the hard knocks of road building season after season at low maintenance costs. And they get out big yardage. Fast hoist and swing speeds, tremendous power and exceptional mobility, combine to make these staunch shovels profitable tools for road builders.

Watch a P & H Shovel at work and draw your own conclusions. There is a size to meet your particular requirements. Write for bulletin describing it.

# **P & H SHOVELS**

**HARNISCHFEGGER CORPORATION**  
Established 1884

4427 W. National Ave., Milwaukee, Wis.

Branch Offices: Atlanta, Baltimore, Birmingham, Dallas, Columbia, Jacksonville, Kansas City, Memphis, St. Louis.

Warehouses & Service Stations: Dallas, Jacksonville, Memphis.

**AGENTS**

Albuquerque—R. L. Harrison Co.  
Atlanta—Yancey Bros.  
Houston—B. B. Everett & Co.  
Jacksonville—Burgman Tractor-Equip. Co.  
Miami—McDonald Tractor-Equip. Co.  
New Orleans—Southern States Equip. Co.  
St. Louis—M. G. Hennessey Machy. Co.

A-5217



*Close-up of interior of INGOT IRON Spiral Welded pipe, showing the perfect circle roundness and smooth interior surface*

## HOW COSTS ARE CUT in Installation and Service with Armco Spiral Welded Pipe

**S**TRAIGHT and strong as a gun barrel with a smooth interior wall that reduces frictional resistance to a minimum, this new spiral welded pipe is ready to serve your most rigid requirements.

Armco Spiral Welded Pipe is the product of an automatic precision process, and is consistently true round. This will appeal to you, especially if you have been seeking a pipe that is dependably uniform.

Important, too, is the fact that this modern pipe is made from durable INGOT IRON—the metal with the longest record of actual service of any low-cost, rust-resisting plates and sheets. However, it may be obtained in steel, if this material is desired.

Armco Spiral Welded Pipe is shipped mill coated, asphaltum-dipt, or galvanized. Wall thicknesses range from 12 gage to  $\frac{1}{4}$  inch; diameters from 6 inches to 24 inches, thus providing a suitable size for virtually every pipe line requirement.

The unusual welding properties of INGOT IRON make this pipe ideal for field welding—or any desired type of coupling may be used.

Sections of any length that can be transported practically are available. This means fewer field joints; while the light weight of Armco Spiral Welded Pipe insures lowest-cost handling and installation.

Just use the convenient coupon below to obtain complete engineering data about this new and unusually efficient pipe.



### THE AMERICAN ROLLING MILL COMPANY

*Executive Office, Middletown, Ohio*

**Export: The Armco International Corporation**

#### *District Offices*

Chicago—Cincinnati—Cleveland—Detroit—New York—Philadelphia—Pittsburgh—St. Louis—San Francisco

## SPIRAL WELDED PIPE

THE AMERICAN ROLLING MILL CO., Middletown, Ohio

Please send complete information and illustrated literature about your new Spiral Welded Pipe, including sizes, wall thicknesses and lengths.

Name .....

Firm Name .....

Street .....

City ..... State ..... MR2-31

**LIGHT IN WEIGHT—FEWER FIELD JOINTS—EASY HANDLING—LONGER SERVICE**



# 70 New Sales Outlets Secured Labor Costs Cut in Half...

*in the First Year's Operation Under the  
May Cost Reduction and Sales Plans...*



*President W. F. Kunkel in the executive offices of the Cream City Bedding Co. He credits the May Cost Reduction and Sales Analysis Plans with this remarkable record.*

W. F. Kunkel, President of the Cream City Bedding Company, Milwaukee, says: "We have been operating under the May Plan about a year. A recent check-up shows that under the May Cost Reduction Plan there has been a reduction in direct labor costs of between 46% and 57% with production off only 18%. This practically doubles the promises of the May Engineers, effecting an actual annual saving of approximately \$14,000.00. None of our employees would willingly return to the old wage payment plan, as their earnings are 8% to 10% more than before. ▼ The recommendations contained in their Sales Analysis Report enabled us to establish 70 new retail outlets. The results obtained for us by George S. May Inc. in a year of depression have put us in a better position than ever before to care for our market."



The quotations used in this advertisement are from a Gould report on the Cream City Bedding Co., Milwaukee, and they are guaranteed authentic. More detailed reports and data on other installations may be had on request.

## GEORGE S. MAY INC.

**Cost Reduction / Sales Analysis / Cost Systems / Appraisals**

**CHICAGO**  
2600 North Shore Avenue

**NEW YORK**  
122 East 42nd Street

**LOS ANGELES**  
215 West Sixth Street

**TORONTO**  
18 Toronto Street

**CANADA: GEORGE S. MAY LIMITED**

# DIRECTORY

ARCHITECTS

ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

**Milburn, Heister & Co.**

Architects

WASHINGTON, D. C.

**Wm. J. J. Chase, A. I. A.**

Architect

Public and Commercial Buildings  
140 Peachtree St. ATLANTA, GA.**G. Lloyd Preacher & Co., Inc.**

Architects and Engineers

1204 Wynne Cloughton Bldg.  
ATLANTA, GA.**Mees & Mees**

Engineers and Industrial Architects

202 Court Arcade,  
CHARLOTTE, NORTH CAROLINA**Leslie N. Boney**

Architect

Schools—Public Buildings  
WILMINGTON, N. C.**B. Russell Shaw Co.**

INCORPORATED

Consulting and Designing Engineers  
AIRPORTS—AIRLINES

Arcade Bldg., ST. LOUIS, MO.

**James D. Lacey & Co.**

Timberland Factors

Forest Engineering—Management  
Aerial Surveys—Timber Reports  
350 Madison Avenue, NEW YORK  
231 So. La Salle St. CHICAGO  
JACKSONVILLE — NEW ORLEANS**Airmap Corporation of America**Aerial Surveys and Maps  
Consultants and Engineers  
The AIRMAP—The Engineer's Aerial  
Map for City Planning, Water  
Supply Studies, Zoning  
Complete Aerial Tax Map Service  
41 Flatbush Extension BROOKLYN, N.Y.**J. B. Converse & Co., Inc.**

Engineers

Industrial Investigations, reports,  
plans, estimates, supervision.  
MOBILE, ALA.**Charlton & Davis**

Civil Engineers

MIAMI FORT LAUDERDALE  
WEST PALM BEACH**George B. Hills Co.**

Drainage, Docks and Terminals

Suite 314 Liggett Bldg.  
JACKSONVILLE, FLA.**Elroy G. Smith**Consulting and Designing  
Civil-Hydraulic Engineer  
Industrial Hydro-Electric Development  
a Specialty  
313-313-A Herald Bldg.,  
AUGUSTA, GA.**Hornbuckle Contracting Co.**

INCORPORATED

Municipal Improvements  
Industrial Village Utilities

ATLANTA, GA.

**Harza Engineering Co.**

Consulting Engineers

Dams, Hydraulic, Hydro-Electric, Flood  
Control and Sanitary Projects  
20 N. Wacker Drive CHICAGO**S. E. Huey**

Consulting Engineer

Civil, Structural, Natural Gas  
Ouachita Bank Bldg., MONROE, LA.  
City Bank Bldg., SHREVEPORT, LA.**J. E. Greiner & Company**

Consulting Engineers

Design, Construction, Investigation, Ad-  
visory Service—Bridges, Docks, Piers,  
Warehouses and other Engineering  
Structures.

1201 St. Paul St., BALTIMORE, MD.

**Whitman, Requardt & Smith**

Engineers

Water Supply, Sewerage and Structural  
Engineering, Reports, Designs,  
Valuations.  
Baltimore Trust Bldg.  
ATLANTA, GA. BALTIMORE, MD.  
ALBANY, N. Y.**Chas. T. Main, Inc.**

Industrial Engineers

Mills, Warehouses, Complete Develop-  
ments.  
Electrical, Steam and Water Power  
Reports Appraisals  
201 Devonshire St. BOSTON, MASS.**C. A. P. Turner**

Consulting Engineer

M. Am. Soc. C. E. Reinforced concrete  
and Structural Steel Bridges, Buildings,  
and Manufacturing Plants.  
300 Builders Exchange Bldg.  
MINNEAPOLIS, MINN.**Walter H. Wheeler**

M.A.S.C.E. and M.E.

Engineers

Mfg. Plants, Buildings, Bridges, Dams,  
1000 Met. Life Bldg.,  
MINNEAPOLIS, MINN.**Consoer, Older & Quinlan, Inc.**

Mems. A. S. C. E.

Consulting Engineers

Water Supply—Sewerage—Industrial  
Engineering  
317 N. 11th St. ST. LOUIS, MO.  
205 W. Wacker Drive, CHICAGO, ILL.**Arthur L. Mullergren**

Consulting Engineer

POWER SPECIALIST

770 Board of Trade Building,  
KANSAS CITY, MO.**Widmer Engineering Co.**

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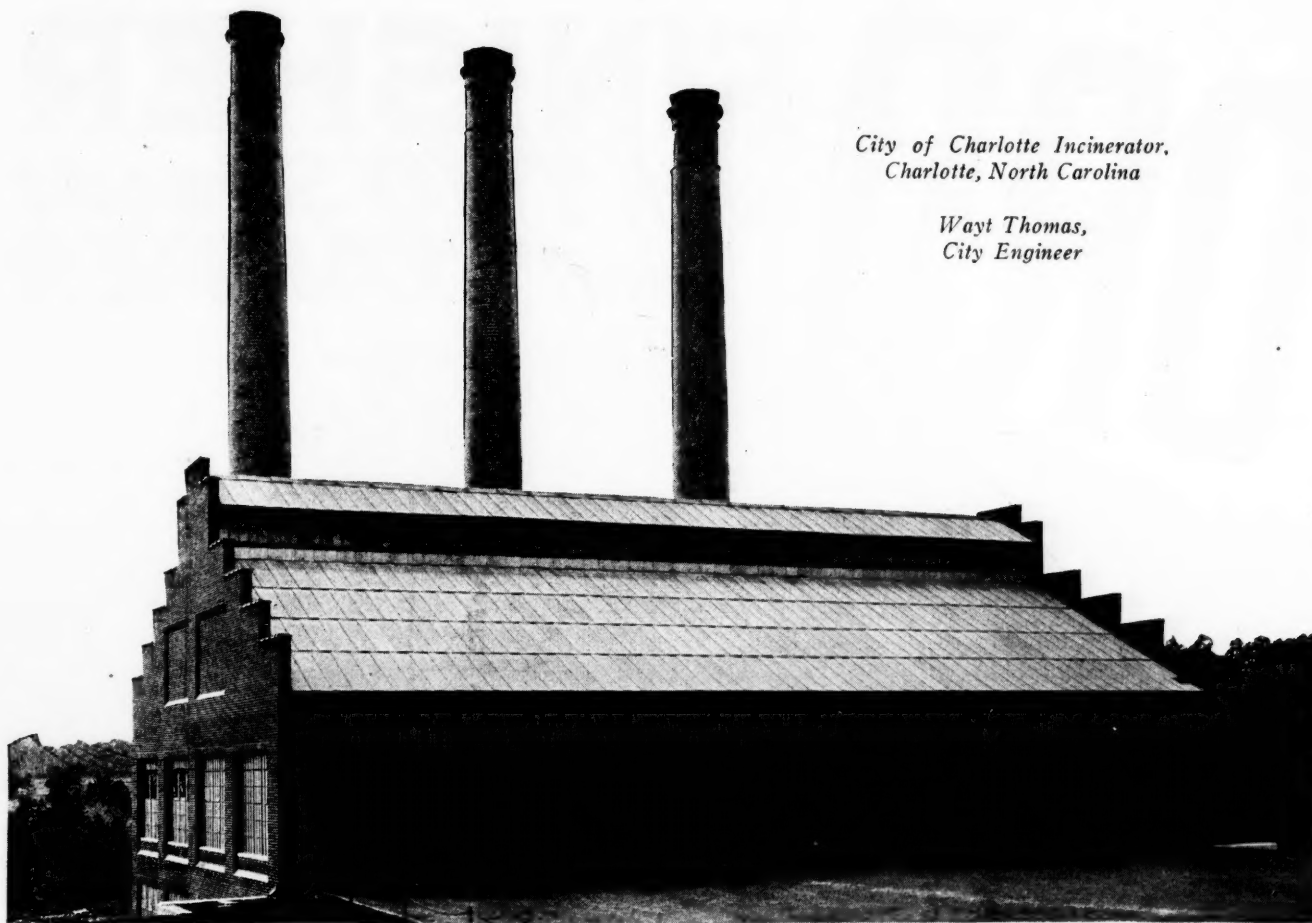


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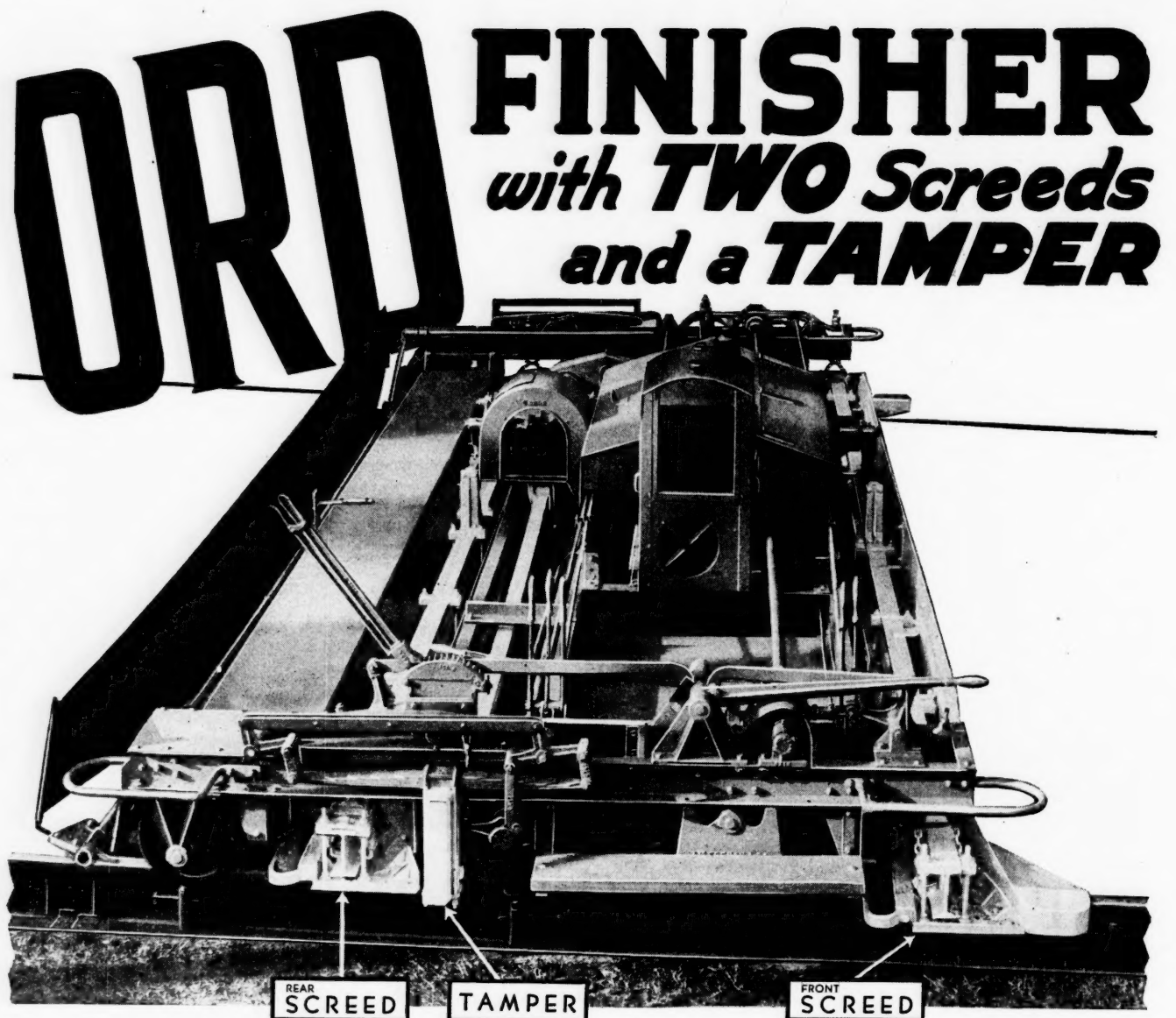
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Baltimore, Md., February 12, 1931

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## MANUFACTURERS RECORD

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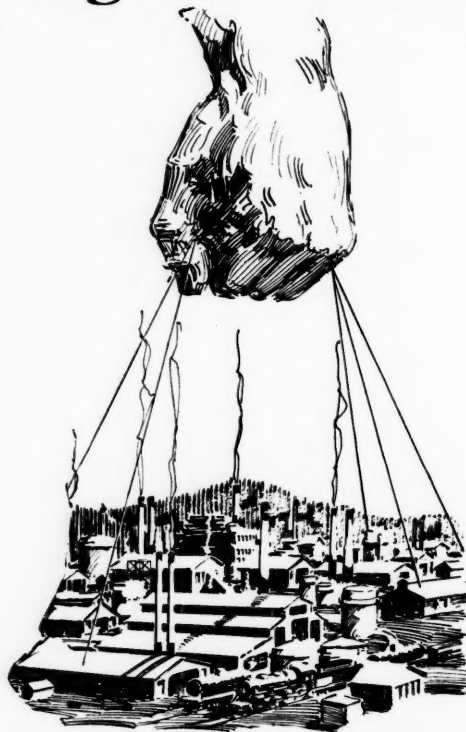
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Vol. XCIX No. 7  
Weekly

BALTIMORE, FEBRUARY 12, 1931

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## In the Interest of Truth

**T**HE scarcity of food in the drought areas of a few Southern states has caused the South as a whole to receive in certain quarters undeserved and untrue publicity. Press reports dealing with purely local conditions have been introduced and headlined in a manner that is entirely misleading. Such headlines convey the idea that the whole South is poverty stricken and its resources dissipated. "South's Plight is Worst Since Civil War Days" is a glaring illustration of such exaggeration.

To anyone familiar with the present-day South and the remarkable progress it has made, statements like the above are too absurd to be even worthy of comment. But there are many who are not fully informed as to the South's resources and activities to whom such headlines in prominent newspapers of the North and East are misleading and create an untrue picture of the South as a whole.

Without any thought of minimizing conditions in the comparatively small drought areas where real suffering exists, the MANUFACTURERS RECORD wishes to express for itself and for the entire South, its amazement and resentment that press dispatches sent out from the afflicted areas so distort and unfairly interpret the situation as to make it seem that the whole South is in want.

When the San Francisco earthquake occurred, the people of the country, through the Red Cross, came to the aid of the homeless and the needy. At that time the great papers of the country did not carry headlines inferring that the whole Pacific Coast was destroyed and its people destitute. The truth was sufficient then; just as it is now.

In fairness to the South, a few facts about this great section of our country may be briefly stated. The South has a population of more than 40,000,000, and about one-third of the country's area. It embraces sixteen states from Maryland to Texas. Its wealth has been estimated at more than \$80,000,000,-

000, nearly three times that of New England and within \$7,000,000,000 of the wealth of the Middle Atlantic states, including New York, New Jersey and Pennsylvania. Its resources are varied and its development has been steady and substantial.

Arkansas has probably suffered more from the drought than any other state in the Union, but it is only fair to Arkansas to remember that its wealth was estimated at \$2,866,000,000 in 1928 and that it has immense natural resources upon which to build. The drought has not destroyed these natural resources—it has temporarily curtailed productivity from them. Arkansas, it is true, has not made the tremendous strides that have been made by some of the other Southern states, yet between 1910 and 1928 its wealth increased by more than \$1,100,000,000, its manufactures more than doubled, and its farm products increased \$121,000,000. It is absurd to believe that this state's wealth and its resources have been entirely destroyed because parts of the state are in real immediate difficulty and in need of temporary assistance.

That the South, as a whole, is going forward even under the present business recession, is indicated in the construction and building record made in the last few months. During 1930 more than \$921,000,000 of construction contracts were awarded in the 16 Southern states, establishing a new high record for such expansion. During January more than \$67,000,000 of new construction was started in the South which, with the exception of January 1929, was the highest mark reached for any January. This high level of January, 1931, followed the record December construction awards of more than \$64,000,000. Such figures do not signify that "the South's plight is worst since Civil War days."

The MANUFACTURERS RECORD is not unmindful of the immediate need for assistance to those without food in the drought areas, but sensational generalizations



conveying untruths about great states that are not affected are without reason except to claim attention regardless of facts.

The figures compiled and printed weekly by this publication prove conclusively that the South as a whole is continuing to steadily develop. One crop failure in a limited area can only temporarily and locally affect that development.

## Pointing the Way

**E**XPANSION of the business of the Glidden Company, of Cleveland, from the manufacture of varnish to the manufacture of paint and then extending to include the apparently unrelated production of salad oil and other food articles is an instance of modern industrial development. Acquisition of a vegetable oil plant in the South to supply raw materials required for its paint manufacturing appears to have been a factor in its entry into the salad oil field. As the oil plant was idle for much of the year, President Adrian D. Joyce in an article written for the Executives Service Bulletin of the Metropolitan Life Insurance Co., explains that the company imported dry copra to keep it busy and ultimately turned out margarine, biscuit coatings, hard butter and similar products for the baking trades. Thus, in the food field, the concern took over another company with its trade in spices, shredded cocoanut and similar packaged goods.

Although not mentioned specifically, the fact is worth emphasizing that research played an important part in this evolution of a varnish and paint manufacturer into a food producer. In a similar fashion many other concerns have extended their operations into fields seemingly far distant from their original activity, an illustration of the unfailing initiative and resourcefulness of successful management in taking advantage of opportunities to create business.

Southern industries could, with profit, through research seek to discover what related or allied lines might be developed from by-products or from entirely new products to be added to their original line. A start has been made in this direction in the South through utilization of sugarcane refuse and wheat straw in the production of building and insulating materials; in cellulose from rice hulls and cotton linters, and in the production of building materials and chemical products from sawmill waste.

Cotton, of course, was the first Southern crop to turn its waste by-product—cotton seed—into a great vegetable oil industry, which in turn developed several other by-products supplying raw materials for the chemical industry.

Research suggests results of industrial promise in the application of sugar in wood preservatives, in textile finishing and in the manufacture of adhesives.

Furthermore, sugar is thought to merit investiga-

tion as a basic raw material for employment of various branches of the chemical industry. In this connection Dr. Edwin R. Weidlein, director of the Mellon Institute of Industrial Research, has announced that the Institute has lately begun a broad investigation into possible industrial uses of raw and refined sugar.

Salt, another Southern product, also furnishes raw materials for many chemical industries.

Among its manifold activities the United States Department of Agriculture is seeking to produce synthetic camphor from the South's turpentine and if this research is successful it would open up another new industry which could be developed in the South.

Among other new discoveries through research which will benefit the South is the manufacture of paper from slash pine; the making of a barrel of gasoline from a barrel of crude oil by the hydrogenation process, yet leaving a by-product for further refining; and the development of many new chemical uses to which natural gas can be applied.

The activities of the Swann Corporation of Birmingham are cited as an illustration of what can be accomplished through commercial chemistry in employing hitherto neglected and waste products in the South.

Following the example of what is being done in increasing efficiency and creating new uses for waste products, manufacturers should give more thought and study now to their own lines of business. This may reveal ways and means to increase profits by saving waste and expanding their activities.

## Motive Force of Progress

**I**N a recent reference to the sounder basis of the American cotton manufacturing industry as compared with a year ago, President Geo. A. Sloan of the Cotton Textile Institute, called attention to one of the vital factors in modern business development. Citing the automobile industry as an example of the public's response to "persistent and convincing advertising," from which other industries could learn a profitable lesson in developing trade, Mr. Sloan said:

"Advertising has become the vital breath of modern industry and without which we cannot help to expand or progress in this competitive age. It is imperative that American manufacturers keep open their lines of communication to the public from whom only will come increased demand."

As the San Antonio Express puts it, the chief beneficiary of good advertising is the public. Through stimulated demand, industrial activity speeds up, lowering production and distribution costs. Advertising thus pays for itself, since the producer, through increased sales, and the customer, through lower prices, both share in its benefits.

Therefore, the sound conclusion is reached that good advertising is the motive force behind progress, and in this age no other force is so powerful.

## Signboard Legislation Necessary

**A**UTOMOBILE drivers and other persons in various states will observe with interest the operation in New Jersey of a new law to tax billboards and regulate the location of such signs. The law is designed jointly to produce revenue and to regulate a signboard practice which frequently makes highway driving dangerous and usually makes beauty spots unsightly.

The signboard tax in New Jersey is three cents per square foot. Billboard rentals in the Newark trade district of New Jersey were shown in the MANUFACTURERS RECORD last August to be \$3440 a month for 24-sheet poster service and \$1012 in the Perth Amboy and Plainfield areas. The minimum for three-sheet service in Newark was \$420 a month, and for Perth Amboy and Plainfield was \$84. In the Manhattan and Bronx sections of New York City, rentals ranged from \$1050 a month for three-sheet posters to \$7000 a month for 24-sheet. The New Jersey tax may produce substantial revenue, but in view of these figures it appears far from oppressive.

In two New Jersey counties, it is announced, nearly 4000 "obnoxious or obsolete" signs were torn down within 60 days of the initial operation of the law.

Commenting on a defensive campaign by outdoor advertisers in Maryland, the Washington Post says:

"There can be no complaint against billboards in their proper place. One expects to see outdoor advertisements in an industrial section; but, when whole landscapes of natural beauty are turned into advertising horrors, the public revolts."

Argument in favor of safety, through elimination of many signboards, is convincing. The plea for preservation of scenic beauty is also of tremendous weight in the South. For several weeks, the leading automobile writer of the New York Herald Tribune has used almost an entire page in the Sunday issues to describe the beauties and general attractions of highways in the South, with highly detailed maps. Each Southern State owes it to itself and to the South as a whole to preserve these beauties unmarred, as well as to furnish fine highways from which they may be fully enjoyed.

On behalf of Virginia, the Richmond News-Leader says:

"For the sake of safety, billboards should be removed from all parts of the road where they distract the driver's attention and obstruct his clear vision. For the sake of Virginia merchants, tourists should be encouraged to visit us, and no state can offer a stronger lure than Virginia's natural scenery. And for the sake of the unconsidered native we should preserve undescrated 'the everyday roadside beauty,' in one abolitionist's happy phrase, 'which reaches the great masses who most need its cultural influences.'"

Such is the sentiment, no doubt, in every state in the South.

Of nine Southern legislatures now in session, seven will not meet again within two years and one not till 1935, and only one will meet next year. Of the two which will meet in the coming spring, neither will meet again till two years hence. The other five do not

foregather until 1932. Reasonable control of highway signboards is a state question far too important to be postponed for four years, or two years, or even one.

## Speed Patent Office Work

**A**NNOUNCEMENT that the United States Patent Office has accelerated the granting of patents and trade marks will be welcome news to thousands who have applications on file pending action by the Government's investigators. The pressing needs of the office have been given recognition by the Congress but much remains to be done to further speed up the work. Patents Commissioner Thomas E. Robertson's prediction that only nine months will elapse between the filing and the consideration of an application we hope is justified. With the start made, further efforts should be put forth to serve more quickly the inventing public and manufacturers who long have been sufferers because of the extreme length of time required to investigate and issue patents.

In the last fiscal year, the greatest the Bureau yet has known, 91,000 applications for patents and 27,000 for trademarks and other rights were filed. Nearly 50,000 patents were granted and 19,000 trade marks and reissues were approved. The average number of patents and designs issued for the five years (1925-1929) was about 42,000. Disapprovals and rejections were not enumerated for publication. The receipts of the office exceeded \$4,000,000, eight per cent higher than in 1929. Although acting on more than 1,000 cases a week for the last three months of 1930, the patent office found itself 108,000 cases in arrears at the opening of 1931. Even if double the number of cases a week could be handled this year, the office would not seem to be able to dispose of the accumulated business in the next 12 months; and this, too, without considering the approximately 100,000 new applications which very likely will be filed this year.

No governmental agency, in its way, is of greater importance than the patent office. The eighth paragraph of Section 8, Article II, of the Constitution empowers the Congress "to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries." The paragraph even preceded other provisions, those for the Congress to declare war, or to establish an army or navy, or to constitute certain Federal courts and other important authorizations. It might almost seem that the framers visioned the inventive genius which has contributed so largely to the development of the United States. The work of the Patent Office has grown to such a volume that any efforts to expedite the movement of applications to their ultimate acceptance or rejection are worthy of commendation and support.

Get the pattern of your life from God, then go about your work and be yourself.—Phillips Brooks.



# Outstanding Building, Engineering and Industrial Projects for January

*Sixty-seven Representative Undertakings, Scattered Throughout the South, and Involving an  
Approximate Investment of \$200,000,000.*

Location	Type of Project	Estimated Cost	Status	Promoted by
Alabama	Power facilities .....	\$10,000,000	Budget for 1931	Alabama Power Company
Birmingham, Ala.	Office building .....	500,000	Planned first unit	Liberty National Life Ins. Co.
	Gas facilities .....	612,000	Budget for 1931	Birmingham Gas Co.
Tuscaloosa, Ala.	Hospital .....	1,100,000	Receive bids, April 1	U. S. Veterans Bureau
Hot Springs, Ark.	Hotel and garage .....	850,000	Contract let	Geo. R. Bartling, Inc., Archts.
District of Columbia, Maryland, Virginia and West Virginia	Telephone facilities ...	16,648,000	Budget for 1931	C. & P. Telephone Companies
Washington, D. C.	Embassy building .....	1,000,000	Plans under way	French Government
	Office building .....	600,000	Let contract, Feb.	American Red Cross
	Office building .....	1,000,000	Let contract, Feb.	Standard Oil Co. of New Jersey
	Army Medical School ...	700,000	Contracts let	Army Medical Centre
	Airplane factory, school.	650,000	Plans under way	International Aeronautical Industries
Miami, Fla.	Power facilities .....	21,000,000	Budget for 1931	Georgia Power Company
Georgia	Post office .....	1,730,000	Architect named	Treasury Dept., Washington
Atlanta, Ga.	Thread mill .....	500,000	Let contract, Feb.	Clark Thread Co.
Austell, Ga.	Power facilities .....	3,000,000	Budget for 1931	Louisville Gas & Electric Co.
Kentucky	Power facilities .....	1,300,000	Budget for 1931	Kentucky-West Virginia Gas Co.
Kentucky-West Va.	Hospital .....	500,000	Contract let	J. W. Norton Memorial
Louisville, Ky.	Water reservoir .....	1,500,000	Proposed	Louisville Water Co.
	State capitol .....	5,000,000	Contracts let	State of Louisiana
Baton Rouge, La.	Airport .....	1,500,000	Let contract, Feb.	Orleans Levee Board
New Orleans, La.	Sprinkler system .....	1,250,000	Wharf protection	Board of Commissioners of Port
	Power and gas facilities	1,830,000	Budget for 1931	New Orleans Public Service, Inc.
	Hospital .....	500,000	Plans ready, Feb.	Flint-Goodridge Hospital
	Public markets .....	1,000,000	Architect selected	City Commission Council
A. A. County, Md.	High schools .....	1,000,000	Soon name architects	School Commissioners, Annapolis
Baltimore, Md.	Power and gas facilities	8,300,000	Budget for 1931	Gas & Electric Co.
	Produce terminal .....	750,000	Contract let	Pennsylvania R. R.
	Library .....	2,400,000	Contract let	Enoch Pratt Free Library
	School .....	650,000	Contract let	Public Improvement Commission
Betterton, Md.	Hotel .....	500,000	Let contract, Feb.	Royal Swan Hotel Corporation
Cockeysville, Md.	Masonic home .....	600,000	Start work soon	Grand Lodge of Maryland
Jackson, Miss.	Hospital .....	750,000	Soon ask bids	Mississippi Building Commission
Clayton, Mo.	Theatre, stores, garage ..	500,000	Proposed	Harold F. Hencken
St. Joseph, Mo.	Hotel .....	500,000	Receive bids April 1	Atlas Realty & Development Co.
St. Louis, Mo.	Union Station plaza....	1,290,000	Preliminary plans ready	City Plan Commission
	Schools .....	1,260,000	Work authorized	Board of Education
Springfield, Mo.	Office building .....	500,000	Proposed	W. H. Shepard
North Carolina	Hydro power project ...	8,000,000	Proposed	Peoples Light & Power Corp.
Raleigh, N. C.	Memorial auditorium ..	500,000	Proposed	E. E. Culbert, Mayor
Oklahoma	Power facilities .....	3,350,000	Budget for 1931	Oklahoma Gas & Electric Co.
Oklahoma City, Okla.	Office building .....	3,000,000	Let contract, Feb.	First National Bank & Trust Co.
	Office building .....	3,000,000	Soon let contracts	Starrett Investing Corp.
	Post office addition ....	1,000,000	Contracts let	Treasury Dept., Washington
	Cathedral .....	10,000,000	Architect named	Protestant Episcopal Church
South Carolina	Power facilities .....	1,700,000	Budget for 1931	South Carolina Power Co.
Jackson, Tenn.	Gas pipe line .....	2,500,000	Projected	West Tennessee Power & Gas Co.
Nashville, Tenn.	Theatre-office building ..	1,250,000	Receive bids March 1	Warner Bros. Pictures, Inc.
Texas	Railway facilities .....	13,800,000	Budget for 1931	Atchison, Topeka & Santa Fe Ry.
Austin, Texas	Library .....	900,000	Plans under way	University of Texas
Childress, Texas	Rail line, 114 miles ...	4,290,000	Work under way	Ft. Worth & Denver Northern Ry.
Colorado River, Tex.	Hydro power plant .....	9,000,000	Let contract, Feb.	Emery, Peck & Rockwood Co.
Dallas, Tex.	Storm sewers .....	1,500,000	Receive bids soon	City Engineer
Ft. Worth, Texas	Post office .....	1,245,000	Plans under way	Treasury Dept., Washington
	Court house .....	1,215,000	Plans under way	Treasury Dept., Washington
	Pleasure pier .....	500,000	Plans under way	J. G. Nelson, Dallas, owner
Galveston, Texas	Railway station .....	5,000,000	Completing plans	Southern Pacific Ry. Co.
Houston, Texas	Electric rail line .....	6,000,000	Proposed	Tidewater Interurban Ry. Co.
	Hospital .....	1,500,000	Proposed	City and Harris County
Waco, Texas	Hospital .....	1,500,000	Receive bids Feb. 21	U. S. Veterans Bureau
Wichita Falls, Texas	Water works .....	1,000,000	Bonds voted	City Clerk
Virginia	Power facilities .....	1,000,000	Budget for 1931	Appalachian Electric Power Co.
Virginia-West Va.	Power facilities .....	8,000,000	Budget for 1931	American Gas & Electric Co.
Norfolk, Va.	Federal building .....	2,000,000	Site selected	Treasury Dept., Washington
Petersburg, Va.	Industrial College .....	1,000,000	Proposed	State Board of Education
Richmond, Va.	Power facilities .....	2,000,000	New lines proposed	Virginia Electric & Power Co.
Roanoke, Va.	Railway facilities .....	10,000,000	Budget for 1931	Norfolk & Western Ry. Co.
Huntington, W. Va.	Hospital .....	700,000	Receive bids May 11	U. S. Veterans Bureau



# Southern Construction

## Increased During January

**C**ONSTRUCTION, engineering and building contracts awarded last month in the sixteen Southern States had a total valuation of more than \$67,000,000. These figures are compiled from the construction reports of the MANUFACTURERS RECORD. No attempt is made to estimate the cost of numerous projects for which no figures are available; nor are residential and other structures, building repairs, alterations and additions, costing under \$10,000 each, included in the tabulation.

The total for January is the highest recorded with the exception of January 1929 when \$67,132,500 of new contracts were reported. In January, 1930, awards for the month aggregated \$39,149,000.

The increase in construction during January is particularly encouraging, since the awards amounting to \$64,850,000, in December, 1930, were the highest of any December. Thus, in the last two months, construction and building contracts have been let in the South with an aggregate value of over \$130,000,000. With numerous important projects let to contract in the fall of 1930, now under way, and with work shortly to be started on important jobs at scattered points in the South, there is in sight a substantial volume of construction.

January activity was featured by the award of contracts totalling \$32,820,000 for road, paving and bridge projects. This is in line with the plan of the states and the Federal Government to speed up such public work to relieve the unemployment situation, and is made possible by the appropriation of increased Federal aid and the voting and sale of bond issues by several states. Also, state highway bond issues are to be considered by a number of the legislatures now in session. In Texas, plans are being discussed for an issue of \$175,000,000 to \$225,000,000 to finance a ten-year program and to provide for reimbursing counties for funds expended on state highway routes. December awards for road, paving and bridge projects amounted to \$20,000,000.

Awards for miscellaneous construction in January amounted to \$11,074,000.

JANUARY, 1931		
	Awarded	Proposed
Apartment Houses and Hotels .....	\$3,833,000	\$1,872,000
Association and Fraternal .....	110,000	218,000
Bank and Office Buildings .....	3,155,000	1,250,000
Church Buildings .....	150,000	927,000
City, County, Government and State Projects .....	6,436,000	4,417,000
Dwellings Costing \$10,000 or Over .....	1,720,000	1,354,000
Miscellaneous .....	11,074,000	21,244,000
Roads, Paving and Bridges .....	32,820,000	29,133,000
School Buildings .....	4,058,000	3,261,000
Sewers, Drainage and Waterworks .....	3,295,000	5,948,000
Store Buildings .....	387,000	1,080,000
	<u>\$67,038,000</u>	<u>\$70,704,000</u>

JANUARY		
1930 .....	\$39,149,000	\$81,518,000
1929 .....	67,132,500	
1928 .....	52,593,000	
1927 .....	60,460,500	

Under this listing are included such undertakings as wharves, piers, power plants, garages and work that is not properly included in the other classifications.

Planned and proposed construction and building operations announced in the first month of 1931 called for an expenditure of more than \$70,700,000. This total would be vastly increased if the 1931 budgets announced for various railroads, power companies and utilities last month had been included. For instance, the Atchison, Topeka & Santa Fe Railway will this year expend \$13,800,000 and the Norfolk & Western more than \$10,000,000.

An idea of the magnitude of expenditures for utility expansion projects in the South is indicated by the following 1931 budgets, details of which were made public in January: Georgia Power Co., Atlanta, \$21,000,000; Oklahoma Gas & Electric Co., Oklahoma City, \$3,350,000; Kentucky-West Virginia Gas Co., Louisville, \$1,300,000; Louisville Gas & Electric Co., \$3,000,000; Consolidated Gas, Electric Light & Power Co., Baltimore, \$8,300,000; Emery, Peck & Rockwood Development Co., Texas projects, \$9,000,000; South Carolina Power Co., Charleston, \$1,700,000; Alabama Power Co., Birmingham, \$10,000,000; American Gas & Electric Co. in Virginia and West Vir-

ginia, \$8,000,000; New Orleans Public Service, Inc., \$1,830,000; C. & P. Telephone Companies in the District of Columbia, Maryland, Virginia and West Virginia, \$16,648,000; Birmingham Gas Co., \$612,000; Byllesby Engineering & Management Corp., Chicago, \$43,000,000; National Electric Power Co. and National Public Service Corporation, New York, \$24,500,000.

Public building construction is being speeded up. Awards last month for city, county, government and state projects totaled \$6,436,000, while during the preceding month contracts let for similar work were valued at \$9,183,000. Meanwhile, sites are being acquired and plans and specifications prepared for Federal buildings in many communities. Private architects have recently been employed to prepare plans under supervision of the Treasury Department, thus facilitating the launching of construction work on such undertakings. In the future more of this work it is believed will be placed in the hands of private architects. Cities and counties are going forward with the building of hospitals, courthouses, libraries and similar structures. Important office buildings are proposed in Birmingham, Ala., Springfield, Mo., Washington, D. C., and Oklahoma City, Okla. Costly hotels are under way and proposed in St. Joseph, Mo., Betterton, Md., and Hot Springs, Ark. A \$1,290,000 Union Station Plaza is planned for St. Louis. Contract has been awarded for a \$750,000 railway produce terminal in Baltimore, and plans are being completed for a \$5,000,000 railway station in Houston, Texas.

### \$500,000 Hospital Improvements

Beaumont, Tex.—Plans have been announced by the Sisters of Charity of the Incarnate Word, Mother M. Plasidus, Houston, superior general, for an improvement program for Hotel Dieu here, at a cost of \$500,000. Construction will involve a new nurses' home, chapel, sisters' home, wing to hospital and remodeling of present structure.

### \$650,000 Office Building Completed in Baltimore

Constructed at a cost of approximately \$650,000, the home office building of the Baltimore Life Insurance Co. has recently been completed. The structure is 87 by 100 feet, 11 stories in height in addition to mezzanine floor, basement and sub-basement. The modern set-back type of architecture is employed and there are no projecting cornices or mouldings beyond the building line or face of wall. The central section of the front sets back about seven feet. Construction is of steel with hollow tile floor arches and partitions, and outside walls are furred with hollow tile. Exterior walls are of Indiana limestone with a base of Georgia granite. Bronze is used for entrance gates, main entrance doors and grill above doors, grill between entrance and elevator lobby, entrance to industrial department and for all store and banking room windows. A bronze panel, cast in bas relief, over the entrance door depicts "Baltimore," with points of interest. Steel sash is used throughout and ornamental iron balconies are a feature of windows on the second and tenth floors. Floors are of linoleum, cork, marble, terrazzo and quarried tile. The entrance hall and elevator lobbies have walls finished in imported marble. Walls of the executive department are finished in walnut.

On the first floor are stores, the industrial department of the insurance firm and a large banking room, while other floors up to the tenth are given over to offices. The 10th and 11th floors are for recreational purposes and include a large lounge or meeting room, kitchen, rest



New Structure for Baltimore Life Insurance Co.

room, lunch room, two roof gardens, library and reading room. Each floor is equipped with a fireproof vault for records, 22 by 35 feet. The building is served by two large passenger elevators and two small automatic elevators. The space occupied by clerical forces is equipped with a washed air ventilating system. Heat is obtained from a central heating plant of the Consolidated Gas, Electric Light & Power Co.

Construction was carried out by J. Henry Miller, Inc., from plans by Mottu and White, architects, and sub-contracts were awarded as follows, all Baltimore, except as otherwise designated:

**Elevators**—Otis Elevator Co.  
**Electric Fixtures**—Blumenthal-Kahn Electric Co.  
**Test Borings**—Gow Co.  
**Excavating**—Potts & Callahan  
**Double Hung Windows**—Campbell Metal Window Corp.  
**Setting Reinforcing Steel**—M. Torre  
**Integral Waterproofing**—R. S. Green, Inc.  
**Hollow Metal Equipment**—Jamestown Metal Equipment Co.  
**Electric Work**—Riggs Distler Co.  
**Glass and Glazing**—Pittsburgh Plate Glass Co.  
**Acoustical Treatment**—Johns-Manville, Inc.  
**Steel Erection**—Harford Erection Co.  
**Roofing and Sheet Metal**—John O. White Co.  
**Heating**—Enterprise Steam and Hot Water Heating Co.  
**Sand and Gravel**—Arundel Corp.  
**Tile and Terrazzo**—Jos. B. Dunn & Sons  
**Parquetry Floors**—J. M. Adams Floor Co.  
**Limestone**—Ingalls Stone Co., Bedford, Ind.  
**Fire Escape**—Logan Co., Louisville, Ky.  
**Structural Steel**—McClintic-Marshall Co., Pittsburgh, Pa.  
**Reinforcing Steel**—Concrete Steel Co., New York  
**Hollow Metal Work**—United Metal Products Co., Canton, Ohio  
**Marble**—Gray Knox Marble Co., Knoxville, Tenn.  
**Ornamental Iron**—La Cour Iron Works, Long Island City, N. Y.  
**Bronze**—Ellison Bronze Co., Jamestown, N. Y.  
**Brickwork**—D. C. Butcher, Washington, D. C.  
**Steel Inspection**—R. W. Hunt Co., Pittsburgh, Pa.  
**Casement and French Windows**—International Casement Co., Jamestown, N. Y.  
**Granite**—Stone Mountain Granite Corp., Stone Mountain, Ga.  
**Millwork**—Robert Mitchel Mfg. Co., Cincinnati, Ohio  
**Linoleum and Cork Tile**—Baker Cork and Tile Co., Washington, D. C.  
**Vaults**—York Safe & Lock Co., York, Pa.  
**Fire Doors**—Coburn Trolley Track Mfg. Co., Holyoke, Mass.  
**Caulking**—Hydrosol Waterproofing Co., Philadelphia, Pa.  
**Mail Chutes**—Cutler Mail Chute Co., Rochester, N. Y.  
**Kalamein Work**—Reliance Bronze & Steel Co., Brooklyn, N. Y.

### Tulsa-Pittsburgh Pipe Line

A new oil pipe line recently completed from Tulsa, Okla., to Pittsburgh, Pa., will serve refineries of the Union Gulf Corporation, Pittsburgh, which is carrying out a \$60,000,000 construction and improvement program. The company has completed a new refinery at Pittsburgh with a capacity of 6000 barrels of crude oil daily, which will be supplied by the new line, it is said, and is completing refineries at Toledo and Cincinnati, also to be supplied by the same carrier.

### Billions Spent Abroad

We are going to be forced to extend and expand the "spend at home" idea, and restrict the theory to the effect that "the dollar that goes the furthest is the dollar that stays at home" to take in America for Americans only. When times were said to be depressed considerably in this country, Americans went abroad last year in larger numbers, spent more money in touring and invested more in foreign lands than ever before, more than in 1929.

Fifteen billion dollars were invested abroad last year by our well-to-do citizens, some of whom complain of hard times in "the States." These spent a full billion dollars more abroad last year than the year before. And fifteen thousand more people went away to spend their money last year than the year before, nearly a quarter of a million people of means. The suggestion is offered that if most of those Americans had traveled in their own land and spent and invested the amounts they put in foreign lands last year times would be better at home and a quarter of a million Americans would have had a broader and better conception of their own land.—*Savannah Morning News*.

### \$1,000,000 El Paso Hotel

A new \$1,000,000 hotel of 350 rooms, each with bath, was recently completed at El Paso, for the Hilton Hotels, Inc., of Dallas, which operates a chain of hotels in Texas. The building is 17 stories with a bungalow on the roof, of reinforced concrete, steel, brick and tile. Trost & Trost were architects and R. E. McKee, general contractor, both of El Paso.



350-Room Structure in El Paso



# Southern Port Development

THE rapid and progressive development of Southern ports, from Baltimore, Md., to Corpus Christi, Tex., during the past few years, as exemplified by the expansion of physical facilities to meet needs of the rapid increase in commerce, clearly indicates the alertness of port officials and private interests to the growing commercial importance of the South. This development of economic resources in the South, together with the relocation of industries, especially in that territory which is the hinterland of these growing ports, tends to provide tonnage of a diversified character from the various industries in this territory. To adequately care for this increased tonnage, far-sighted officials have planned in detail for the present, as well as for the future, modern facilities to handle rapidly and efficiently the tonnage offered. More frequent sailings have been established at the ports, and the Federal Government has cooperated by approving plans for harbor and channel improvements where the needs were most apparent.

The firm and confident conviction of the South in its unmeasured trade possibilities is convincingly evidenced by the recently completed port improvements. That these convictions were well founded and that there was need for more adequate facilities can readily be appreciated when one considers that the commerce of the principal Southern ports from Baltimore to Corpus Christi has advanced from 92,695,000 tons in 1924 to 117,931,000 tons in 1929, an increase of approximately 28 per cent in five years. With few exceptions all important ports have participated in this growth, as will be evident from a consideration of the accompanying table.

By

MAJOR GENERAL LYTLE BROWN

Chief of Engineers,  
United States Army

Public Cotton Warehouse and Grain Elevator at the Port of New Orleans

Baltimore,  
Md.

THE City of Baltimore, under the terms of the Port Development Act, has completed three waterfront structures, at Port Covington, costing approximately \$8,500,000, for lease to the Western Maryland Railway for a variable period ranging from 30 to 55 years. These new facilities, completed in 1929, include a pier 216 feet wide, with a single shed 1000 feet long; a 2-story south marginal wharf building, 135 feet wide by 800 feet long; a 2-story west marginal wharf building, 90 feet wide by 600 feet long; and a 2-story concrete warehouse, 90 by 500 feet. The terminal, which is equipped with modern freight handling equipment, has a total deck space of 3700 feet and will accommodate seven large ocean-going vessels. In addition to the new piers, an extension has been made to the merchandise pier, a revolving car dumper has been in-

## COMMERCE AT PRINCIPAL PORTS CALENDAR YEARS 1924 and 1929

(Quantities in short tons)

Ports	Total Commerce 1924	Total Commerce 1929
Baltimore, Md. ....	16,526,291	20,264,165
Norfolk and Portsmouth, Va. ....	15,174,708	16,552,892
Wilmington, N. C. ....	883,636	1,218,760
Charleston, S. C. ....	2,082,222	2,680,934
Savannah, Ga. ....	2,039,625	2,475,110
Brunswick, Ga. ....	799,742	1,146,374
Jacksonville, Fla. ....	2,774,946	3,306,754
Miami, Fla. ....	1,105,616	924,897
Tampa, Fla. ....	2,532,599	3,727,441
Pensacola, Fla. ....	672,414	919,886
Mobile, Ala. ....	2,694,908	4,713,683
Gulfport, Miss. ....	428,868	479,603
New Orleans, La. ....	13,609,603	15,995,374
Galveston, Tex. ....	6,743,080	5,471,713
Houston, Tex. ....	7,094,294	13,917,953
Texas City, Tex. ....	3,906,989	2,692,744
Beaumont, Tex. ....	4,803,150	12,004,725
Port Arthur, Tex. ....	8,872,920	9,198,814
Corpus Christi, Tex. ....	No data	239,260
Totals .....	92,694,711	117,931,082

stalled at the coal pier, and an electrically operated marine leg at the grain elevator. With these new piers and additions, the Western Maryland Railway possesses one of the most modern shipping terminals on the Atlantic seaboard. Its facilities cover more than a mile of waterfront, with dockage space for 22 vessels.

Private interests at the port of Baltimore also have made extensive additions to their facilities during the past five years. Several miles of bulkhead construction and numerous piers have been built by various industries to take care of their growing activities.

At Fairfield, Baltimore, the Maryland Dry Dock Co., has constructed a pier, 32 by 650 feet, and installed a 9000-ton dry dock. Future plans of this company call for additions to piers Numbers 3, 4 and 5, construction of a new pier 875 by 48 feet, and installation of an additional



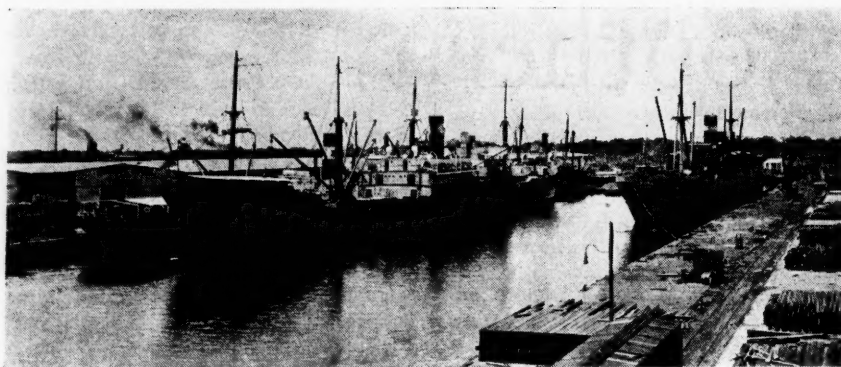
floating dry dock of 18,000 tons lifting capacity.

The Bethlehem Shipbuilding Corporation has dismantled and rebuilt its upper yard, which now comprises a new concrete headwharf and six piers. Three of these are provided with electric tower crane service and two with steam locomotive crane facilities. The yard is equipped with a graving dock and a floating dry dock, with lifting capacities of 8000 and 6000 tons, respectively.

The existing project of the Federal Government for the improvement of Baltimore Harbor provides for deepening the channels below Sparrows Point to 37 feet, with a width of 1000 feet in York Spit Channel and a general width of 600 feet from the entrance to Craig-hill Channel to the Sparrows Point Channel, and thence 35 feet deep and 600 feet wide to Fort McHenry. Increased anchorage facilities 1500 feet wide by 4500 feet long and 35 feet deep are about one-third completed.

**Hampton Roads** **ALTHOUGH** the commerce of Norfolk and Portsmouth has shown an increase of more than 1,500,000 tons since 1924, the splendid facilities already provided at the port are adequate for present and future needs, and no terminal improvements have been undertaken. At Newport News, the Chesapeake and Ohio Railway Co. recently authorized construction of a \$2,210,000 coal pier and a \$1,500,000 merchandise pier. The Federal Government has approved a project for a channel 25 feet deep to Richmond, and the city plans construction of terminal facilities and a turning basin at the head of the proposed 25-foot project, 3.8 miles below Richmond. With completion of these projects, a new deep water port will be added.

**Wilmington, N. C.** **I**N the channel of the Cape Fear River at and below Wilmington and the anchorage basin at Wilmington the depth of water is to be increased by the Federal Government to 30 feet, and a new turning basin is to be constructed opposite the principal terminals. This turning basin is to be 30 feet deep, 1000 feet long and 600 feet wide, with ap-



Lumber Docks and Municipal Terminals at Jacksonville

proaches 500 feet long at both ends. Private interests have constructed two oil terminals about two miles below the city, operated by the Texas Co. and the National Oil Co. Each terminal has one dock. Used as distributing centers these terminals are adequately equipped with storage capacity for handling tanker cargoes and have rail connections for tank car shipments.

**Charleston, S. C.** **T**HERE has been an appreciable improvement of late years in facilities for handling water-borne commerce at the port of Charleston. This is shown by the enlargement of warehouse space and wharfage and by additions to the cargo-handling equipment. The Port Utilities Commission, under the plan of owning and operating public terminals and warehouses, is contemplating the enlargement of berthing space and warehouses and the improvement of handling facilities at the Columbus Street Terminal.

**Savannah, Ga.** **D**URING 1929 and 1930 the Pan American Petroleum and Transport Corp. erected an oil refinery on the south side of the harbor, with a capacity of 4000 barrels of crude oil per day, and constructed a steel sheet pile bulkhead and unloading dock, 200 feet long. The Gulf Refining Co. increased

its Hutchison Island terminal capacity by about 20,000 barrels; the Standard Oil Co. has built a new timber unloading wharf and increased its tank capacity by 40,000 barrels.

**Brunswick, Ga.** **T**HE Atlanta, Birmingham & Coast Railroad Co. has improved its terminal facilities for the storage of sugar by moving and remodeling a warehouse with a storage area of 24,000 square feet, and by remodeling the old cotton shed with a present capacity of 97,000 square feet.

The Georgia Creosoting Co. have constructed a canal 35 feet wide, 8 feet deep, and extending 1950 feet shoreward in their property, to be used for mooring logs, poles, piling, etc. They have also constructed a creosoted sheet pile bulkhead, 500 feet long. The Brunswick Marine Construction Corp. and the Brunswick Terminal Railway Securities Co. have built wooden pile wharves. Oil facilities of the port have been increased by construction of a wharf in Academy Creek by the Gulf Refining Co. and by improvements made by the Atlantic Refining Co. to its facilities on Turtle River.

It is stated that Glynn County has purchased 1000 acres on Back River and that the City of Brunswick proposes to purchase 1000 acres on East River, to be developed into an airport, industrial sites, and municipal docks.

**Jacksonville, Fla.** **J**ACKSONVILLE, the commercial metropolis of the Florida peninsula, located in the heart of the great pine belt of the Southern states, has become one of the leading naval stores depots of the United States. The natural advantages of the port have had much to do with its remarkable growth, and efforts of municipal authorities to keep the port abreast of the times by erection of modern facilities have proved an important factor in making Jacksonville one of our leading ports.

During recent years Municipal Pier No. 3 has been completed. This pier is 1000 feet long by 350 feet wide, is concrete and sheet pile bulkhead filled in, and has useful berthing space of 2185 feet for boats drawing from 21 to 30 feet. It is lighted, has railway and highway connections, a transit shed about 800 feet by 100 feet, and has electrically operated trucks inside and outside of the shed. It is devoted exclusively to the handling of naval stores, all of the naval



Cotton Docks, Compress and Rail Yards, Corpus Christi



Activity Along Waterfront at Savannah, Ga.

stores business of the port being handled at this pier. A naval stores yard of 60 acres adjoins the pier, with a capacity of approximately 200,000 barrels of rosin and 50,000 barrels of turpentine. This yard is equipped with electric pumps and pipe lines for loading turpentine direct, ex-storage to vessels and tank cars, and 15 electric trucks of 5-barrel capacity are available for handling barrels.

The Shell Petroleum Corp. has acquired 36 acres of land on the left bank of the St. Johns River, and has made extensive channel and harbor improvements, including the construction of a pier 638 feet long by 20 feet wide, with a berthing space alongside of about 500 feet. The Sun Oil Co., the Seaboard Oil Co. and the Sinclair Refining Co. have each constructed storage tanks and pipe lines.

Export shipments of fresh citrus fruits and intracoastal shipments through the port of Jacksonville are increasing. There is a project for the construction of a tidewater cold storage plant at Commodore Point Terminals for the storage of fruits in transit. Other commercial developments put in operation at the port in recent years may increase its commerce and while facilities are considered adequate at present the City of Jacksonville has plans for another pier similar to the three already built, when the needs of commerce demand it.

#### Miami, Fla.

THE past five years have witnessed great activity on the part of municipal and private interests at Miami in the dredging of channels and the construction of new terminal facilities. The municipal turning basin has been deepened to 25 feet and enlarged, and the three slips on the south side of Pier No. 3 have also been deepened to 25 feet. Under the terms of the River and Harbor bill approved by the last Congress, this basin will be taken over by the Federal Government for maintenance and enlargement.

Municipal Pier No. 3, constructed by the City of Miami, has a length of 1000 feet and a width of 200 feet. Two steel and concrete warehouses on the pier are occupied by the Munson Steamship Co. and the Baltimore and Carolina Steamship Co. The Clyde Steamship Co., which occupies Municipal Pier No. 2, has made a number of improvements, including a cooling plant with a capacity of 75,600 cubic feet, or 20,000 packages

of fruit or vegetables; a new fish refrigerator room with a capacity of 200 barrels; and an electric conveyor system which facilitates handling freight. The Merrill Stevens Dry Dock Co. has made extensive additions and improvements to their plant, and various oil companies have increased tank storage capacity and constructed warehouses at their terminals.

#### Tampa, Fla.

WHILE most of the traffic at the port of Tampa consists of bulk commodities, such as petroleum and products, phosphate rock and other fertilizer materials, cement, asphalt, coal and coke, lumber, sand and stone, the port in recent years has developed facilities for handling general cargo. The most recent development of this character is a concrete wharf erected by the Tampa Union Terminal Co., 672 feet long and 40 feet wide from which a channel 27 feet deep leads to the Government channel. The wharf has two 2-story, transit sheds and a concrete warehouse eight stories high, five floors being used for cold storage.

Many new facilities have also been added for the handling of bulk cargo, including the terminals of the Kreiss Potassium Phosphate Co., the Florida Cement Co., the Sinclair Refining Co., the plant of the U. S. Phosphoric Prod-

ucts Co., the steel fabrication plant of the Tampa Shipbuilding & Engineering Co., and new storage tanks at the plants of the various oil companies.

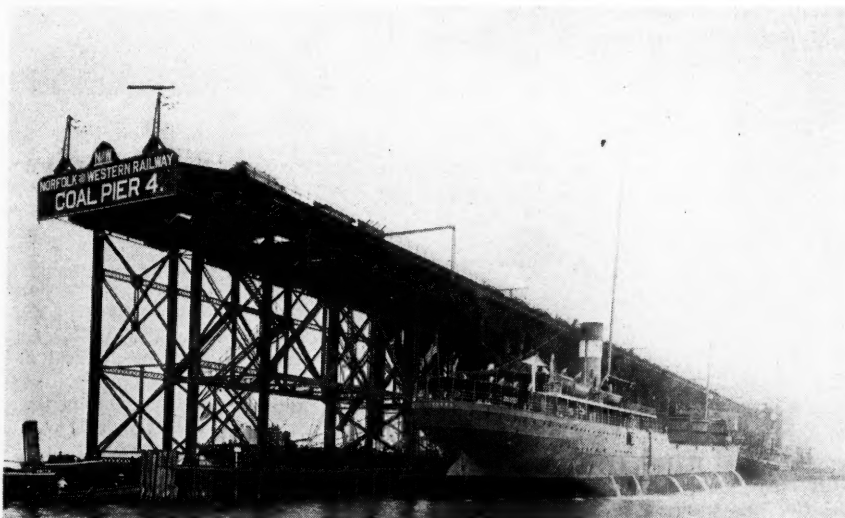
The Atlantic Land and Improvement Co. at Port Tampa has rebuilt Phosphate Elevator No. 4 and constructed timber wharves on the south side of their slip for the Gulf Refining Co., the Shell Petroleum Corp. and the Seaboard Oil Co. The American Cyanamid Co., on the east side of Hillsboro Bay, has made a fill out from shore about 3300 feet; constructed a bulkhead wharf 1260 feet long providing 1050 feet of berthing space; and dredged a channel 150 feet wide and 27 feet deep from the Hillsboro Bay Channel to the wharf, with a turning basin at the wharf. They propose to erect, within the next two years, a plant for the manufacture of superphosphate and by-products, and to provide up-to-date handling facilities, involving an expenditure of \$3,500,000.

#### Pensacola, Fla.

THE commercial importance of Pensacola is due largely to its use by two important trunk lines, the Louisville and Nashville Railroad and the St. Louis-San Francisco Railway. These two railroads own the principal piers and wharves at the port and have expended over \$4,000,000 in dredging, renewing and expanding their docks in the past five years.

The city owns and operates a wharf with ample shed room, and there are also a number of well-equipped piers and wharves owned by private interests. A new industry has been added to the business of the port by the addition of a cork board unit to the plant of the Newport Company, which utilizes waste material from the manufacture of turpentine and pine oil in making insulating material. The Pensacola Compress Co. has doubled its cotton warehouse, capacity now being 15,000 bales.

The harbor at Pensacola is capable of berthing and protecting deep draft vessels, and the favorable geographical location, ample facilities of the port, and the southeastern Mississippi Valley as its tributary territory, make the future growth and expansion of the port a certainty.



Norfolk and Western Coal Pier, Lambert Point, Va.

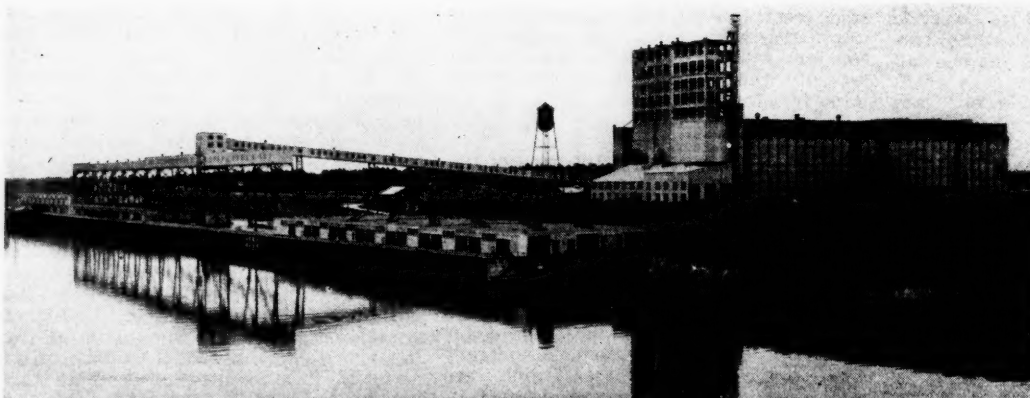


**Mobile, Ala.** FEW ports in the United States can show in recent years more substantial development of waterfront freight handling facilities than Mobile. The State Docks, completed in 1929, have provided the port with modern facilities to meet present and future port needs. They consist of three piers and a modern electrically equipped coal, ore and bulk material handling plant. Their construction has filled a long felt need for a terminal providing ample berthing space and storage warehouses at shipside. The State has also constructed a joint interchange yard as well as a classification yard with a capacity of 1000 cars, and sites for industrial enterprises are offered under long-term leases with low rentals.

**New Orleans, La.** THE port of New Orleans during the past few years has been actively engaged in making extensive terminal improvements. The Inner Harbor Navigation Canal, which connects the Mississippi River with Lake Pontchartrain, has been completed. This canal is 5½ miles long with a depth of 30 feet and a bottom width of 125 to 300 feet and is a connecting link of the Intracoastal Waterway between Corpus Christi and Mobile. The canal will ultimately be widened to 500 to 600 feet. The Board of Commissioners of the Port of New Orleans, which owns and operates the majority of the terminal facilities, has increased the total length of its wharves from 33,496 feet to 39,644 feet. Capacity of the cotton handling terminal has been increased from 420,000 to 461,856 high density bales of cotton.

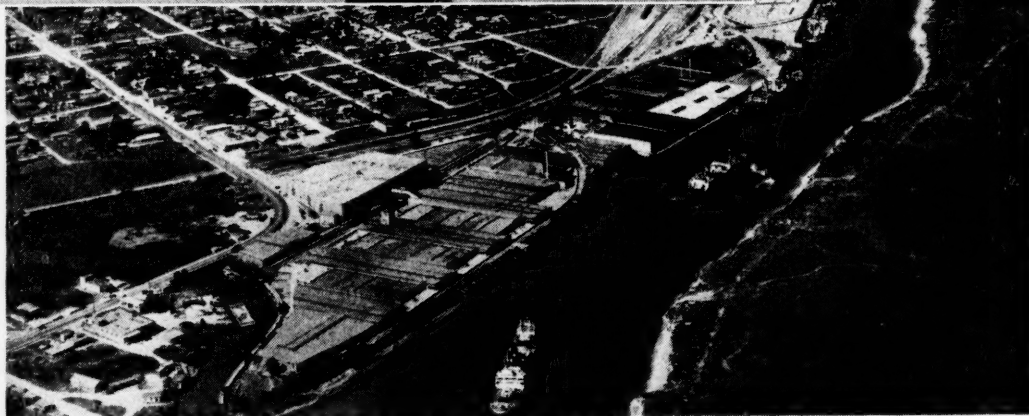
**Lake Charles, La.** THIS port was officially opened to commerce in 1926. It provides terminal facilities consisting of a wharf 1600 feet in length, with two warehouses which have a covered area of about 215,000 square feet. Ample storage tracks are provided for cargo awaiting shipment and double marginal tracks whereby cargo can be handled between car and ship. There are additional private wharves for the handling of oil and other cargo.

**Gulfport, Miss.** FACILITIES of this port have been increased by the addition of storage space at the railroad facilities, and the Federal Government has approved a project for a channel 27 feet deep.



Left—Public Grain Elevator on Deep-water Ship Channel at Houston, Showing Addition Under Construction

Right—Ocean Traffic on Houston Ship Channel, One of the Country's Great Inland Waterway Projects. Local Interests Matched Federal Funds in Providing This Route to the Gulf, and Expended Millions for Terminal Facilities



The ship repair facilities of the port have been expanded to provide for the needs of shipping. The Gulf, Mobile & Northern Railroad Co. has practically completed the dredging of a slip south of its present Pier No. 3, with an average length of 1200 feet and a width of 388 feet, and contemplates construction of a wharf 541 feet long, 80 feet wide, parallel to and about 300 feet south of its present pier No. 3. A new wharf has been constructed by the Mobile and Gulf Navigation Co., and the Standard Oil Co. has announced its intention of using the land filled in by the dredging operations of the Gulf, Mobile & Northern Railroad Co. as a tank farm.

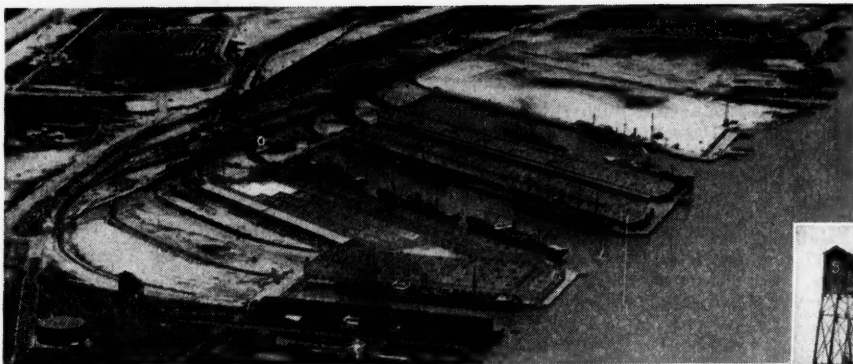
Storage capacity of the grain elevators has been increased by over 2,000,000 bushels, while reducing the number of elevators from eight to three. Area available for cargo handling has been increased from 7,000,000 to over 8,000,000 square feet, and trackage of the Public Belt Railroad has been increased from 80.66 miles to 93.48 miles. Most of the new wharves are of concrete and steel construction.

The Mandeville and Charbonnet Street wharves and sheds, recently destroyed by fire, are now being replaced by modern fireproof structures of concrete and steel. The Bienville Street Wharf is being dismantled and will be replaced by a modern concrete and steel wharf to be occupied by the Southern Pacific Steamship Co.

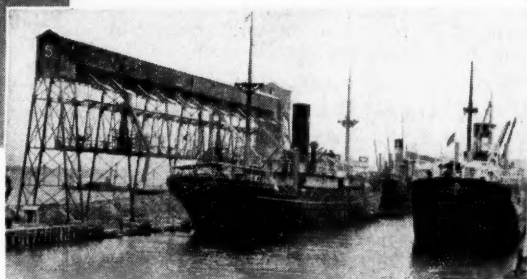
**Galveston, Tex.** GALVESTON, as the premier cotton exporting seaport of the United States and one of the leading exporters of wheat, has in recent years made extensive improvements to its facilities.

The Galveston Wharf Co., which owns about 90 per cent of the waterfront at the port, has constructed a new pier and a 2-story reinforced concrete warehouse, reconstructed Piers 23 to 26, and made extensive additions to Elevator "E", increasing its storage capacity to 6,000,000 bushels. Storage warehouse facilities at the port have been greatly enlarged by the addition of nine cotton warehouses. These facilities and high





Left—Mobile State Docks, Constructed at Cost of \$10,000,000. Classification Yards and Industrial Canal Immediately in Rear of Piers



Right—British, Japanese and American Vessels Are Here Shown Loading Phosphate Rock at Dock of Atlantic Coast Line, Tampa, Fla.

Photo by McGill Studio, Mobile, Ala.

density cotton compresses have a total floor area of 1,656,688 square feet. Other warehouses have been enlarged, making a total storage area of 2,261,288 square feet.

A marine repair plant has been built recently and several old shops have been improved. Two ocean-going tugs and three barges have been added to the floating equipment serving this port. Oil bunkering facilities have been increased by the addition of a small wharf, tanks, an 8-inch pipe line at Pier 41, and a large barge for bunkering ships in the harbor.

Fire protection to waterfront property has been augmented by addition of a new fire boat with a capacity of 16 streams of water, and also by an increase in the number of hydrants along the waterfront. Steamship lines serving the port have been increased by nine, making a total of 56 lines available to shipping.

The Federal Government has increased the project depth to 32 feet at mean low water over a width of 1200 feet from the outer end of the channel near Fort Point to the west side of the Southern Pacific docks at 43rd Street.

Future plans of the Cotton Concentration Co. contemplate construction of warehouses and compresses on a site

recently purchased which covers 17 city blocks adjacent to their plants. Other storage companies are planning additions. It is understood that the Burlington-Rock Island Railroad Co. proposes to extend railroad service to Galveston in the near future. Marine repair facilities of the port will be increased when work now under way is completed.

#### Houston, Texas

**H**OUSTON has expended huge sums to provide terminal facilities to handle the enormous increase in the port's commerce. At the turning basin the City of Houston has constructed reinforced concrete wharves capable of berthing six vessels, and a public grain elevator of 3,000,000 bushels capacity, connected with the wharves by a system of conveyors. Railway connections have been extended to the wharves and down the channel. A new fire boat was purchased for waterfront protection.

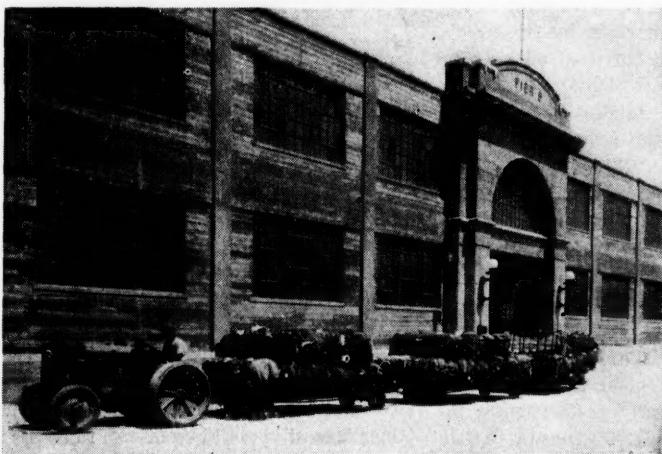
Private concerns have matched the port authorities' building program by constructing costly terminal facilities. A terminal to serve coastwise steamers has been constructed, capable of berthing six vessels; a cotton terminal, consisting of wharf, warehouses and sheds, and having a capacity of 2,500,000 bales of cotton, has been added; a steel company

has erected a receiving and fabricating plant consisting of a wharf and barge landing, sheds, warehouses, etc.; oil companies have provided additional terminals and ship berths to serve their refineries; a cement company has provided a wharf and terminal to serve its cement manufacturing plant; large general warehouses and cold storage plants have been constructed. The improvements mentioned together with those made by other private concerns during the past five years are estimated to have cost about \$71,000,000.

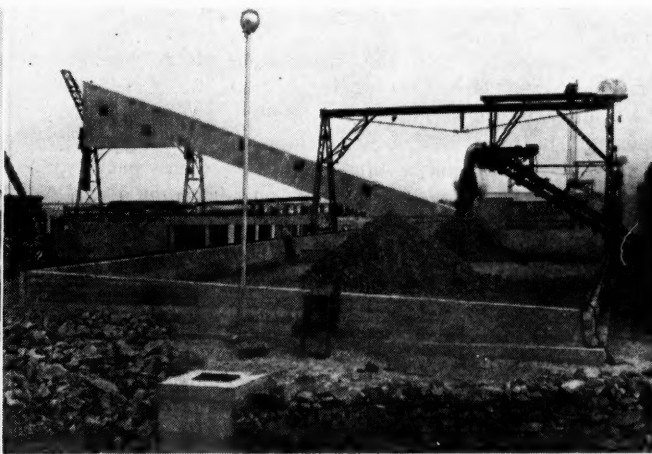
#### Texas City, Tex.

**T**ERMINAL facilities at Texas City have been increased by the erection of new warehouses, a grain shipping conveyor, a shipside cottonseed oil terminal and a high density cotton compress. Oil bunkering facilities have increased, and a modern sprinkler system has been established in four warehouses and the cotton compress.

Under a 5-year improvement plan, the Texas City Terminal Co. contemplates the extension of the present oil dock, the construction of a new 1000-foot oil dock, the enlargement of the present grain elevator to a capacity of 2,000,000 bushels, the addition of a second story to one of the warehouses, and construc-



An All-Concrete and Steel Pier, Sprinkler Equipped, Used for Storing and Handling Cotton, Recently Completed at Galveston at Cost of \$750,000



Zinc Ore Docks at Corpus Christi. Southern Ports Have Installed an Array of Material Handling Equipment for Commodities of All Types

tion of additional warehouses to accommodate 50,000 bales of cotton.

The project of the Federal Government for improvement at Texas City includes the extension of the harbor 1,000 feet southward of the present oil pier, with a width of 800 feet and a depth of 30 feet; increasing the width of the harbor to 800 feet with a depth of 30 feet from the south property line of the Texas Sugar Refining Co. to the present oil pier; and the improvement of the dike protecting the channel.

**Port Arthur, Tex.** **T**HE City of Port Arthur is engaged in placing a concrete sheet pile bulkhead along the west bank of the Sabine-Neches Canal. Oil companies have made improvements to their facilities which have greatly increased the storage capacity of the terminals.

**Beaumont, Tex.** **T**HE City of Beaumont has improved the municipal wharf.

**Corpus Christi, Tex.** **S**INCE the completion and opening of the port terminals in 1926, the port has had a remarkable development. Private interests have constructed a modern warehouse of 93,600 square feet storage capacity, two cotton compresses with cotton storage sheds, together with oil storage tanks with a total capacity of 55,000 barrels.

The Humble Oil & Refining Co. has established a pipe line terminal, tank farm of nearly 150,000 barrels capacity, oil loading facilities and dock at Ingleside, about 12 miles east of Corpus Christi, and connected with the channel from Aransas Pass to Corpus Christi by a lateral channel. This company has also extended its pipe lines to Harbor Island, near Port Aransas, increased its pipe line capacity to 90,000 barrels per day, established a tank farm of 85,000 barrels capacity, constructed two wooden loading docks, and a turning basin in front of the wharves, dredged to a depth of 32 feet. These developments face the channel to Corpus Christi, and are about 3600 feet west of Port Aransas.

### Contract on \$3,000,000 Bank

Oklahoma City, Okla.—General contract to erect the superstructure of the new \$3,000,000 bank and office building here for the First National Bank & Trust Co., Frank P. Johnson, president, has been awarded to the Manhattan Construction Co., Muskogee and Tulsa, Okla. The new building will be 200 by 140 feet, 32 stories and basement, of brick, stone, steel and reinforced concrete. Weary & Alford, Chicago, are the architects and Edward Smith, Oklahoma City, resident architect.

### \$25,000,000 PIPE LINE

#### PROJECTED

Would Carry Natural Gas to Detroit from West Virginia and Kentucky

Ashland, Ky.—Negotiations are said to have been completed by the Columbia Gas & Electric Corp., New York, and interests connected with the Detroit City Gas Co., Detroit, Mich., for piping natural gas from the fields of southern West Virginia and eastern Kentucky, beginning at a point near Ashland and running to Detroit. The project is estimated to cost \$25,000,000 and it is understood that application will be made within 60 days for permission to enter Detroit. Several months ago the Northern Industrial Gas Co., organized by Moody-Seagraves, the American Utilities & General Corp., and the Hope Engineering Co., Mt. Vernon, Ohio, filed application with the Detroit city council for a pipe line permit, following which the council engaged John H. Morgan to investigate the proposal. Mr. Morgan submitted his report in December, suggesting separate mains for industrial and domestic consumers, but unified distribution in control of one company. The new project is believed to have resulted from this recommendation. Since filing the report, the Columbia Gas & Electric Corp. is said to have negotiated with Moody-Seagraves interests for large gas reserves in the Southwest and for engineering participation in building new pipe lines to the Atlantic seaboard. Under the terms of this deal Columbia is said to have acquired the right-of-way laid out from Ashland to Detroit last year and to have succeeded to any rights Moody-Seagraves may have had in the pending application before the Detroit council.

## Power of Dust Explosions

By W. F. SCHAPHORST, M. E., Newark, N. J.

**I**N line with an article, "Wood Dust Highly Explosive," in a recent issue of the MANUFACTURERS RECORD, we often hear expressions of amazement regarding the destruction caused by dust explosions. Many persons seem to think there is something mysterious about such explosions, that the tremendous forces cannot be accounted for. That is a mistaken view. They occur "scientifically," in much the same fashion as explosions in an automobile engine.

In an effort to determine the energy in dust explosions, I have found that wheat elevator dust from a side wall, when ignited in a closed chamber or room, will create a pressure of 13 pounds per square inch. Right there, however, the figures stop and nothing further is said in books I have consulted concerning the enormous power wrapped up in this high pressure gas which may create so much havoc and money loss.

My computations show that where the pressure is 13 pounds per square inch in a room 10 by 10 by 10 foot, or 1000

cubic foot, the air after expansion would occupy a volume of 1570 cubic feet, or an increased volume of 57 per cent. I find that each cubic foot of converted gas has a capacity for doing 400 foot-pounds of work. In other words, if all of the energy in the room 10 by 10 by 10 foot could be concentrated on a body weighing one ton, or 2000 pound, it would lift that weight to a height of 200 feet. It would be able to throw 10 men, each weighing 200 pound, to a height of 200 feet; or one man weighing 200 pounds to a height of 2000 feet.

According to records of 270 dust explosions, 444 lives were lost in 66 of these explosions and 780 people were injured in 83 cases. In 132 explosions the total money loss amounted to \$32,917,000 or over \$250,000 per explosion. Chiefs of the Bureau of Chemistry inform us that over 21,000 plants in the United States alone are continually confronted by this hazard, these industries manufacturing about \$7,000,000,000 worth of products a year.

### New Division of Kentucky

#### Utilities

Lexington, Ky.—The Kentucky Utilities Co., Louisville, controlled by the Middle West Utilities Co., Chicago, has combined properties of itself and affiliated companies in 111 cities and communities into an operating division to be known as the Bluegrass division of Kentucky Utilities Co. Headquarters of the division will be established in Lexington, in charge of J. P. Pope, as division manager, vice-president of the Lexington Utilities and associated companies. The Bluegrass division is one of four divisions of the company which embrace the entire state and extend into Virginia. It will serve more than 50,000 light and power customers.



# Rejuvenate Anti-Trust Laws

Sherman Act Shows Infirmities of 40 Years of Life

BY SILAS H. STRAWN,  
Chairman of Board,  
Montgomery Ward & Co., Inc., Chicago

AS I recently said to the New York State Bar Association in discussing economic conditions, there is in the United States an abundance of capital, a superabundance of labor and plenty of raw material; yet, production has halted because productive ability has outstripped consumptive capacity. Production and consumption have not been, and are not now, properly synchronized, with the result that the business machine is out of order.

This condition prevails throughout the world, but I now am discussing a problem individual to the United States; Should our Anti-Trust laws be amended?

Men of prominence constantly assert that repeal of, or substantial amendments to, the Anti-Trust Laws is a condition precedent to the return of prosperity. Among the objections urged to those laws are:

(1) That they are obsolete; that conditions which they were designed to correct no longer exist.

(2) That they not only prohibit honest efforts to co-operate for the good of a trade or industry, but, without specifically defining the offense, they declare such endeavors to be criminal acts, and subject the parties to imprisonment and to actions for punitive damages.

(3) That, instead of permitting economy in production with resultant benefit to the consuming public, they say: "You must duplicate the plant and equipment of your competitor and keep pace with him in the enlargement of his facilities and output, even though it be ruinous to the industry and ultimately prejudicial not only to capital, but also to labor and to the consumer as well."

(4) That the inflexibility of the laws and their drastic and uncertain criminal provisions, not only prevent the conservation of our natural resources, but also require a wasteful exploitation of them.

(5) That the rigidity of the laws may have been all right at their inception, when the productive capacity of our domestic manufacturers was insufficient to meet the needs of the people, but that today large units of our industries are vital to our foreign trade, and absolutely essential if we are to compete with foreign countries whose economic policy is on a different basis from that of the United States.

The American view with respect to business and government is an uncompromising maintenance of the principle of competition in the interest of the consumer and the small producer and trader. The European conception of in-

dustrial relationships is manifested by an attitude of tolerance towards combinations and monopolies, including price-fixing and limitation of output by agreements in the form of cartels and trusts. These combinations are to a greater or lesser degree under governmental supervision and regulation, in the interest of what is described as "national economy."

Present day mergers and consolidations in the United States are based on the conception that the public and the proprietor both will share the benefits of the larger unit. Cooperative agencies also are thought to be helpful in furnishing scientific data and trade information to competitors in a manner approved by the courts.

During the 40 years of its existence, no law has given rise to more important litigation than the Sherman Act and its supplementary legislation. Unfortunately, the intermediate courts frequently disagree in attempting to draw a line between lawful and unlawful agreements. Under present procedure, an administrative body may authorize a merger or reorganization as being in the public interest, while a reviewing court may not agree with its conclusion and order "the eggs unscrambled."

So it is that financiers and business men may be required to wait for years before they know whether some creature of their genius is lawful and whether it may continue to exist. This state of uncertainty, coupled with the overhanging threat that any attempt at industrial coordination, even though undertaken in good faith, may result in a criminal penalty and civil suit, stifles initiative and retards progress.

Nowhere has this impotency to act been more keenly felt, and nowhere has the need for a flexible anti-trust law been more strikingly presented, than in the industries engaged in the exploitation of our natural resources. Producers in this field should be enabled to ascertain in advance whether concerted action on their part, obviously in the ultimate public interest, is lawful. They

should not be required to guess at the legality of a good faith agreement and then be confronted with the penalty of a large fine or imprisonment if the Government afterwards decides their guess was wrong.

Labor, too, has its complaints about the Anti-Trust Acts. It feels that these laws were directed solely at combinations of capital and not at organizations of workingmen, and it flatly denounces the strict enforcement by which the unions have been deterred from the use of the powerful secondary boycott.

For different reasons, and to varying degrees, our Federal lawmakers have seen fit to exempt railroads, national banks, agriculturists, steamship companies, exporters and producers of industrial alcohol from the operation of the trade statutes. These exemptions, where they have sanctioned monopoly, have usually been accomplished by the extension of increased governmental control through administrative agencies.

The Webb-Pomerene Act is a definite recognition by Congress that competition in the world markets is more severe than at home and that if our exporters are to be placed upon a basis of equality with the powerful groupings of foreign capital, combination between them is necessary. Accordingly, it exempts from the operation of the Sherman Act those engaging solely in the export trade. You can easily see the difficulty of an industry complying with the Sherman Act and availing itself of the Webb-Pomerene Act when that industry is producing commodities both for domestic consumption and for foreign markets.

In this time of world-wide depression and of ever-increasing competition with other nations, I ask whether the time is not approaching when we shall have to depart from, or at least modify, our economic policy of conserving only the immediate interest of the ultimate consumer and whether we shall not have to adopt at least a modification of the "national economy" scheme pursued by our European neighbors.

If we adhere strictly to the theory that competition must continue, regardless of the fate of the producer, it may become so keen as to deprive him of any return on capital invested and deny a living wage to his employee. Under the existing system, the larger units, by



the law of decreasing costs, are slowly replacing the smaller producers; whereas, a saner solution might be evolved by agreements which tend to equalize production and consumption to the general advantage. I do not mean to be understood as advocating the further intervention of Government into business. There is entirely too much of that already. On the contrary, I would give the fullest freedom to individual action within limits defined by a governmental agency. Panaceas are generally unsatisfactory, but it occurs to me that industry will be assisted and stabilized if contracts and regulations, having for their purpose the proper control of production, are permitted.

Much could be accomplished by amending the Sherman Act so as to sanction agreements among manufacturers when, in the opinion of some governmental agency, the public interest would be promoted. If persons desiring to enter into such contracts could obtain advisory opinions on the legality of their proposed action, and be immune from criminal prosecution and responsibility for treble damages, the disastrous consequences would be removed. The

retention of the right to dissolve a combination when it had outlived its usefulness would also insure against the old evils of vicious restraints.

The American Bar Association has recommended that the Acts be amended:

(1) By vesting in an administrative agency, preferably the Federal Trade Commission, the power to approve in advance trade contracts voluntarily submitted; and,

(2) By granting immunity to the parties thereto for acts done in pursuance thereof during the existence of such approval.

The report of the committee has been approved by the Association, now numbering more than 29,000 members.

It is futile to expect a repeal of the Sherman Law. Such action, I believe to be not only politically impossible, but also unwise from the standpoint of business and industry. If it were repealed, we might get a law or laws much more onerous. The trouble is that the law is not flexible enough to meet the ever-increasing complexities of our social life. Mergers and combinations and protective trade agreements are inevitable, not only in the interest of economy in pro-

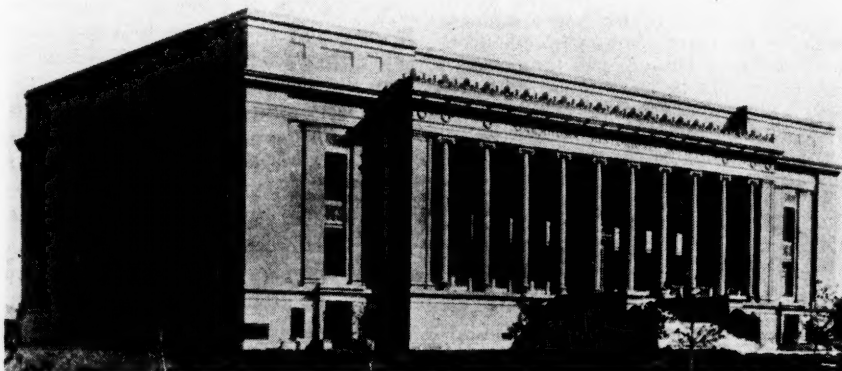
duction and distribution in our own country, but also to enable us successfully to compete with other nations in the markets of the world.

Therefore, I feel that the law should be amended so that, without taking away any of its safeguards against monopolies or unreasonable restraints of trade, it may be adaptable to modern conditions; that we should create or enlarge the powers of some administrative governmental agency, probably the Federal Trade Commission because its machinery is easiest of adaptation to the purpose, and permit business and industry to obtain advice as to whether proposed agreements are consistent with the law, as it may be construed from time to time, consonant with existing circumstances.

### Employ 100 Operatives

Reidsville, N. C.—The silk mills here of the Klotz Silk Manufacturing Co., Inc., which have been closed since last August, have resumed operations with more than 100 operatives, including men and women. The two units of this plant are engaged in throwing and weaving.

## \$500,000 Oklahoma City Building



New Structure for Oklahoma Historical Society

AS part of a plan for development of the Capitol grounds at Oklahoma City, a \$500,000 building has been completed by the State of Oklahoma for the Oklahoma Historical Society. The structure is of reinforced concrete, with an Indiana limestone superstructure rising from a base of Georgia granite. Entrance steps are also of granite. All public floors are of marble; gallery floors are of parquet oak and walnut. American walnut trim is used throughout the building.

An auditorium seating 400 people, a gallery for heavy museum pieces, a newspaper stack room, and rest rooms are located on the ground floor. The

first floor has a large reading room for the library, reading room for newspapers, a room for patriotic societies and a staff room; on the second floor are offices and work rooms of the Historical Society staff. Galleries for museum and picture display purposes are on the third floor.

Automatic passenger and freight elevators provide access to all floors, automatic lifts being installed for the books and newspaper racks. Each floor has an electrically cooled drinking fountain. The new building is also equipped with a ventilating and heating system, the steam for which is furnished by the plant of the State Capitol.

Layton, Hicks & Forsythe, Oklahoma City, designed the structure, and Edwin P. Boyd was supervising architect. The Holmboe Construction Co., Oklahoma City, was general contractor. Subcontractors included:

Heating and Plumbing—Fischer Co., Norman, Okla.

Stone—Consolidated Cut Stone Co., Tulsa, Okla.

Reinforcing steel—Concrete Engineering Co., Oklahoma City

Forms—S. W. Flexible Form Co., Oklahoma City

Sand and rock—Dolese Brothers Co., Oklahoma City

Metal Windows—Bissel Builders Supply Co., Oklahoma City

Ornamental modelling—Lorenze Wood Carving Co., Oklahoma City

Masonite—Masonite Corp., Chicago, Ill.

# Birmingham Industries Active

First Month of 1931 Sees Increased Activity  
in Industrial City—3500 Men Return to Work

**W**ITH the first month of 1931 behind it, Birmingham is moving forward with confidence into a year which it believes will bring a return to sound and profitable business and which will be marked by steady progress. During the month of January, thousands of men returned to work in industries in the Birmingham area and increased business activity is noted in many lines.

Though the depression of 1930 was severely felt here, as elsewhere, a careful check reveals the fact that Birmingham made decided progress even in face of the times. On the night of December 30, the Birmingham Industrial Board had its annual dinner, the special guests being representatives of the various industries and branch offices opened during the past year. H. C. Ryding, chairman of the Industrial Board and president of the Tennessee Coal, Iron and Railroad Company, presided.

The report of the board for 1930 revealed that 18 new industries had started in business during the year and 33 branch and district offices had been opened here by national concerns. These plants and offices together gave employ-

By JOHN M. WARD

Birmingham Industrial Board

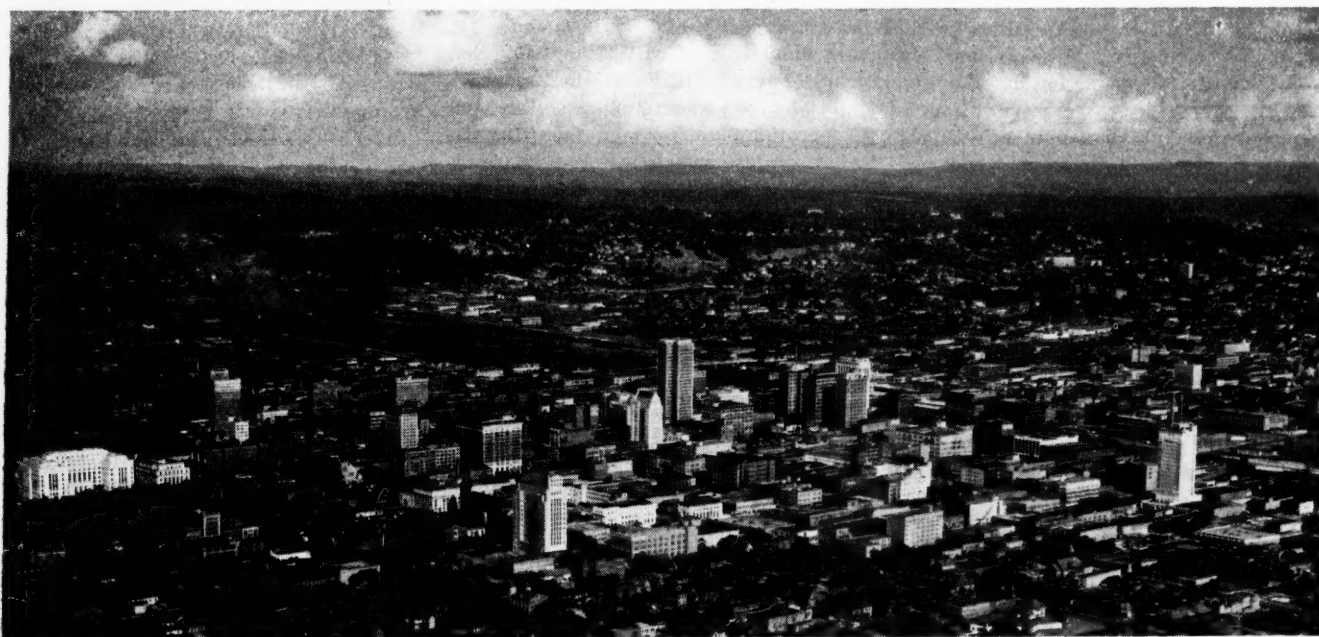
ment to hundreds of men and increased the annual payroll in the city no less than \$1,000,000. In addition to these new firms, expansions during the year by 21 industries already here totaled over \$10,500,000. The officers of the board spoke with optimism regarding 1931.

With the opening of 1931, renewed industrial activity was noted. On January 1, the Tennessee Coal, Iron and Railroad Company announced the resumption of operation by its rail mills, which put back to work approximately 1500 men. Since the first of the year, orders for rails have been placed by the Louisville & Nashville Railroad for 50,750 tons, the Southern Railway 30,655 tons, the Southern Pacific Railway 20,000 tons, the Seaboard Air Line Railroad 5000. Also, orders were placed by Frisco and Atlantic Coast Line.

Large orders for steel shapes to Con-

nors Steel Company enabled it to put to work 150 to 200 additional men. Contracts for 10 steel barges for the Mississippi and Warrior Rivers, let by the Inland Waterways Corporation to Ingalls Iron Works of this city and Alabama Dry Docks Company of Mobile, enabled each of these companies to give employment to several hundred additional men. Announcement by Governor Long of Louisiana that Alabama limestone, structural steel and cement would be used in construction of the new Capitol building of Louisiana and the placing of these orders have increased activity in the Birmingham district, the center of these industries in the state. The cement plants have become especially active following large orders from the State board of Administration and other sources. The large Morton plant of the Alpha Portland Cement Company at Powderly, the largest in the district, was the most recent to resume operations on full-time basis.

Two hundred and twenty-five men recently returned to work at the North Birmingham plant of the W. S. Dickey Clay Manufacturing Company and in the



Photograph by 106th Observation Squadron, Alabama National Guard

A Recent Air View of Metropolitan Birmingham



company's pits at Kilgore. The cast iron pipe industry has been very active, following large orders received since January 1. It is estimated that 3500 employees have returned to work in the Birmingham district since January 1.

During the month, the Birmingham Industrial Board announced the location of two new industries and several branch offices. The Dr. Pepper Company of Dallas, Texas, manufacturer of carbonated drinks, selected Birmingham as the location of its new syrup plant to supply the entire Southeast, from Virginia to Louisiana. The plant is to be constructed immediately and will represent an investment of \$120,000. J. W. Link is president of the company. The name of the second company has not been released, but it will manufacture a line of steel products not made at present in the district. A location has been selected and its machinery will soon be on its way south.

During January, two local plants which had been closed down were sold to new interests. The Vulcan Tile and Brick Company was purchased by the National Fireproofing Company of Pittsburgh. This company has improved the plant and it is in full operation. The Perfection Furniture Manufacturing Company was sold by F. M. Jackson to Robert F. Hall and Raymond M. Srygley, and will be immediately put into operation manufacturing breakfast room and kitchen furniture.

The city voted favorably on January 27 on a \$500,000 bond issue, to be used for improvement of the city parks. This work will give employment to hundreds of men and some of the work is already under way. The first bill to pass the present legislature and be signed by Governor B. M. Miller was to authorize the issuing of bonds by Jefferson County for the immediate completion of the new county courthouse. Work on this magnificent structure can now be resumed and will give employment to many men.

Grading on Birmingham's million-dollar municipal airport is about completed and construction work on hangars and other buildings has already started. Work on retaining walls in connection with construction of the Twentieth and Eighteenth street underpasses is progressing and other work on these projects is under way. This is part of a \$4,000,000 program sponsored by the railroads and city jointly in the elimination of grade crossings in the city.

The past month also witnessed activity in real estate. Several local industries and companies purchased property adjoining their plant. The Liberty National Life Insurance Company, whose home office is located in Birmingham, announced the purchase of property on

Highland avenue, and plans are being drawn for construction of a home office building to cost approximately \$500,000.

Building permits actually taken out for the month of January showed an increase of \$260,349.

These and many other things have gone far toward restoring confidence in business in the district and the outlook is brighter than at any time for many months.

### Market Survey of Mid-West

The Midwest section of the United States will be studied intensively for commercial and industrial characteristics and possibilities by the Domestic Regional Division of the Department of Commerce, according to E. F. Gerish, chief of the division. Included are Illinois, Indiana, Iowa, Kentucky, Michigan, Ohio and Wisconsin.

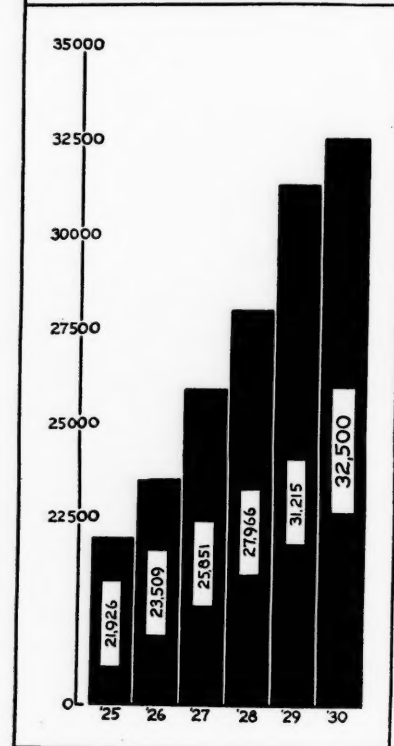
Complete data will first be gathered on furniture and its place in the economic life of the region. Other important commodities will be taken up in turn, the plan to be used in all regional surveys now under way or to be made by the Department.

### New Rayon Plant for Tennessee

Kingsport, Tenn.—Plans are being prepared and contracts will be awarded in March for the construction of a big plant here to manufacture cellulose acetate rayon yarns, according to an announcement by the Tennessee Eastman Corporation, a subsidiary of the Eastman Kodak Co., Rochester, N. Y. The new plant will have a capacity of 2,500,000 pounds of yarn annually and will occupy a section of a 375-acre tract of land here now occupied by the present Tennessee Eastman Corporation plant for manufacturing cellulose acetate which was put in operation about a year ago, having been built at an estimated cost of \$2,000,000. The first unit of the new plant will involve a main building 100 by 500 feet, a portion of which will be four stories. Production is expected to start about October of the current year. Eastman acetate yarns are being distributed through the agency of A. M. Tenney Associates, New York, who announced plans for the new plant simultaneously with the announcement at Kingsport. Mr. Tenney is quoted thus: "The decision to build a new plant at this time is in part based on the success attending the operation of this corporation's present plant and the approval of the new yarns by those manufacturers to whom we have been able to supply only a part of their requirements during the past ten months."

### A Black Record

#### SIX YEARS OF MOTOR VEHICLE DEATHS



During 1930 there were 32,500 automobile deaths, a four per cent increase over the record of 31,215 deaths in 1929. This four per cent increase occurred despite the fact that there was less than one per cent growth in motor schedule registrations during the past year, says the National Safety Council, Chicago. It is significant that ten states with strong driver-license laws showed an average decrease in automobile deaths of 1.5 per cent.

### Northwest Texas Development

Amarillo, Texas.—The Panhandle and the South Plains of Texas show an increase of 125,000 in agricultural tracts since 1920, according to figures compiled by traffic representatives of railroads traversing those sections. Notwithstanding low prices of agricultural products, the breaking up of ranches into farms in this territory still continues at a rapid rate. It is said to be one of the few parts of the United States into which home-seekers are now coming. Because of this great farm development several hundred miles of new railroad have been constructed and are projected in Northwest Texas.



## Reducing

# Industrial Lighting Costs

By GEORGE W. KEOWN,

Commercial Engineering Department, Westinghouse Lamp Company

**L**ARGE savings accumulate from little economies, especially in the industrial world. Manufacturing operations make it easy for overhead costs to soar, and prominent among such costs is that accompanying industrial lighting. Artificial illumination, as a necessity in every industry, requires incandescent lamp supply, which is open to regulation and standardization in many instances.

Mazda lamps today are so lasting that users are likely to overlook the depreciation factor which eventually necessitates replacement. Incandescent lamp supply, therefore, is not given the serious consideration it deserves. Storage space, investment in slow-moving stocks, needless varieties and records, all are susceptible to downward revision and thus justify expert supervision.

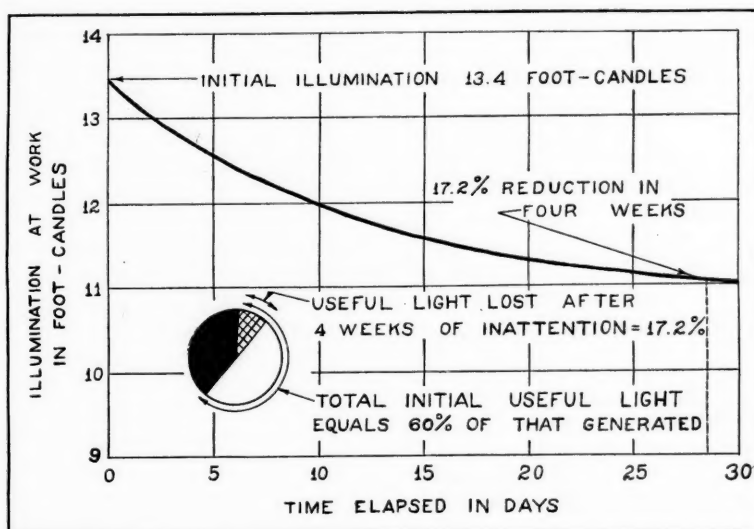
Using lamps of many sizes and different styles often results in a confusing supply system which ultimately creates wasteful inventories. Also, with the practice of inserting large wattage lamps where smaller ones would do the job, there results a waste of power. This condition can be corrected by a more economical regulation of lamp orders, thus promoting savings and, when properly related to standing stocks, resulting in a lower inventory investment. To accomplish this, purchasing agents may order lamps in standard packages, to utilize highest possible discounts, and place frequent orders or establish a recurring delivery schedule, so that small stocks can be maintained.

That savings can be realized through lamp standardization is shown by the

example of a steel mill equipped with 3200 200-watt Mazda lamps. Requiring five lamp replacements per socket per year, the annual supply of lamps totaled 16,000. All these lamps were burned in mogul base sockets, to prevent theft, and were classed as special. If all these mogul bases were replaced with medium base sockets, a saving of seven cents per lamp, including manufacturer's discount, could be immediately realized. This would result in a total annual saving of \$1120 on lamps alone. Also, by replacing the mogul base sockets with medium

to make the lamp special and exclude it from a standard group. Lamp manufacturers are concentrating their efforts on the quality and perfection of those lamps which can be classed as standard by virtue of their application for practically all uses. Special lamps always require special work aside from the general manufacturing routine and, therefore, command a greater charge. Thus, it has been possible through decreasing varieties to reduce the ultimate cost of standard lamps to the consumer.

While special lamps will probably always be necessary, at least 75 per cent of the special lamps in use today can be replaced with standard sizes. Special lamps cost from four to 35 cents more than standard lamps, and in many instances the structural difference is very slight. In one example, the lamp was an inside frosted type, while in another a mogul base, instead of a medium base, classed the lamp as special. Even when a lamp is designed for 220 instead of 115 volts, it performs falls into the special class. The principal advantages of lamp standardization to the user are



Loss of Light From Neglect of Lighting Equipment

base sockets, 65 cents per reflector could be saved, involving a saving of \$2080 for 3200 reflectors and bringing the total saving to \$3200.

Recent investigation into the relamping schedules of the steel industry discloses a slight tendency to reduce the number of special lamps in use, but many mills are still using large quantities of lamps which are decidedly not standard. If it is a special frosted lamp, or unnecessarily has a mogul socket, or is designed for a 220-volt system, no matter how small the detail, it is enough

lower lamp cost, lower inventory cost and better delivery service. The features of fewer lamps to order and quick service make it possible for steel mills to place orders as frequently as once per month.

The sizes of lamps to include in a standard group depend largely on the number of different operations which require special lighting. However, such a group may well include 50, 100, 200, 300, 500 and 1000-watt Mazda lamps, with possibly a few special type lamps, as required in individual instances. One

steel mill on record went so far as to reduce the different sizes of lamps from about 12 to only two.

It is just as unwise to use lamps too restricted in number as it is to use a large list, as a strict limitation might defeat the plan for adequate and suitable lighting. For example, where only the 50 and 300-watt lamps were classed as a standard group, there may have been occasion to use a 100 or 200-watt lamp. If a 300-watt lamp is used, there is a waste of power. However, it should seldom be necessary to stock 40, 50, and 60-watt lamps all in the same plant.

### Book on Home-Building

"How to Judge a House" is the title of an 84-page book recently issued by the National Committee on Wood Utilization of the Department of Commerce. Intended for the prospective home buyer, it outlines the more important considerations in regard to structural features of the average house and its planning and design. The book was prepared under the guidance of a sub-committee headed by N. Max Dunning of Chicago, Fellow of the American Institute of Architects.

The book represents authoritative and up-to-date information on home building and home owning problems.

### Unusual Mine Hoist

Coal Creek, Tenn.—The Southern Coal & Coke Co., Inc., Cincinnati, Ohio, operating coal mines in Eastern Tennessee and Kentucky recently purchased a Westinghouse 500-horsepower wound rotor type CW hoist motor for installation at one of its mines near Coal Creek. The hoist is not vertical but a slope with an average gradient of approximately 27 per cent. Contrary to usual requirements, the unit will lower loaded cars and hoist empty ones. The hoist drums are double cylindrical and will be operated as is commonly known "in balance." Except for special speed indicating equipment and overspeed protection, control equipment for the motor is Westinghouse full magnetic control.

### Public-Utility Earnings Gain

Gross earnings of public-utility enterprises in November, exclusive of telephone and telegraph companies, as reported to the Department of Commerce by 95 companies or systems operating gas, electric light, heat, power, traction, and water services were \$206,140,765, as compared with \$202,500,000 in November, 1929, \$198,032,715 in the corresponding month of 1928 and \$182,077,497 in 1927.

### \$6,000,000 NATURAL GAS LINE

#### 300-Mile Project is Extension of El Paso System

El Paso, Tex.—Construction has been started by the Western Gas Co., affiliated with the El Paso Natural Gas Co., to build a 300-mile natural gas pipe line system, which will practically be an extension of the latter company's system. The project, estimated to cost \$6,000,000, will involve a 12¾-inch line from El Paso to Douglas, Ariz., 235 miles, for which the A. O. Smith Corp., Milwaukee, Wis., is furnishing pipe, while the line from Douglas to Naco, Ariz., 20 miles, will be 10¾-inch pipe, and from Naco to Cananea, Mex., 8½ inch. Four-inch and six-inch pipe will serve the communities mentioned. All pipe beyond Douglas is being supplied by the Republic Steel Corp., Youngstown, Ohio. The lines are being laid under a contract with the Bechtel-Kaiser Company, Ltd., El Paso.

The new line will have two pumping stations—one near El Paso and the other near Deming, N. Mex. The El Paso station will contain three 800-horsepower gas engine driven compressors and the Deming station two similar units, all made by the Cooper-Bessemer Corp., Mt. Vernon, Ohio. The line of the El Paso Natural Gas Co. will be reinforced by the construction of two compressing stations, located about one-third and two-thirds the distance, respectively, from Jal, N. Mex., to El Paso, each to contain three 800-horsepower Cooper-Bessemer compressor units. The stations will be erected by the Stone & Webster Engineering Corp., Boston, Mass., from plans prepared by Ford, Bacon & Davis, Inc., New York, who laid out and planned the entire system and will supervise construction. Miscellaneous equipment has been negotiated for.

The route of the line was laid to avoid mountainous construction and it is said that not more than 10 per cent of the entire line could be regarded as involving difficult work. Running 19 miles north from El Paso east of the Franklin Mountains, it crosses these mountains through Anthony Pass. It leaves the mountains at this stage and crosses the Rio Grande River, running almost due west to a point south of Deming and passing north of extensive lava beds. Near Deming the line bends slightly southward and passes through the Peloncillo Mountains in Antelope Pass, thence southwest to Douglas. For short distances the line passes through rough country in the vicinities of Douglas, Bisbee and Cananea, but elsewhere it runs through semi-arid flat valleys characteristic of Arizona and New Mexico.

### Refractionating Tower for Big Oil Refinery



The Chicago Bridge and Iron Co., Chicago, Ill., recently completed at its Birmingham plant this large bubble or refractionating tower for installation at the Baton Rouge refinery of the Standard Oil Company of Louisiana. It comprised, it is said, the largest shipment in weight, length and width ever handled over the Louisville & Nashville Railroad. The tower as shown above was mounted on two special flat cars, separated by a third flat car and is 11 feet in diameter and 87 feet long. The Foster-Wheeler Co., New York, were designing engineers on the job.



# Mechanizing Alabama Agriculture

By P. O. DAVIS

Editor, Alabama Polytechnic Institute

**P**OSSIBLY the most important change now being made in the agriculture of Alabama—and this is largely true of the entire South—is taking place right on the farms, aside from work on a national and regional scale in marketing. Some farmers may be slow to consider new developments and to act on new demands, but it seems safe to say that tens of thousands are participating in the effort for a safer, a more profitable and a better agriculture and rural life.

Most important among the advance steps is the growing use of modern machinery, including additional power. In this way farmers of Alabama and other Southern States are achieving much toward the reduction of production costs, an essential in successful farming.

In Alabama, significant lines of work include: (1) Improvement of the soil by terracing, to prevent washing and leaching; by growing legumes; by diversification, and by raising more livestock; (2) greater use of improved machinery and also more power; (3) application of better methods; the use of more and better fertilizers; planting the best varieties of seed; and the production of livestock of better breeds. These efforts are set forth in "A Sound Agricultural Policy for Alabama," prepared by commercial and agricultural interests, the press, spinners and operating farmers.

Evidence of success is found in a report by J. B. Wilson and W. H. Gregory, agricultural engineers for the extension service of the Alabama Polytechnic Institute, Auburn. It shows that 11,305 farmers terraced last year 287,326 acres of land, as a result of terracing demonstrations; 548 drained 11,486 acres, and 1878 removed stumps and boulders from 30,561 acres.

With farm machinery, especial progress is being made with cultivators. In one year, county demonstration agents in the state and the extension agricultural engineers conducted 131 demonstrations, following which 2024 cultivators and 1245 big plows and 305 tractors were bought. These figures represent only a fraction of the total cultivators, plows and tractors being used in Alabama. They merely reflect a response to demonstrations and also to demands for reducing production costs to keep the farming balance on the right side of the ledger. Farm machinery sales in

Alabama have climbed year after year during the past decade. County demonstration agents and agricultural engineers have found that two-horse cultivators can be used wherever the topography of the land is such as to enable farmers to produce cotton profitably. Wherever cultivators cannot be used, they are advising farmers to allow their land to grow timber again, as timber is more profitable than row crops on such land.

The use of more cultivators and the demand for production at a low cost are causing a demand for bigger and better planters. Planting so that corn and other crops can be cultivated in either direction is needed to eliminate hoe work, which is inefficient and expensive.

With the purchase of cultivators and planters, more tractors are being bought. Mr. Wilson and Mr. Gregory estimate that more than 600 of the new type tractors are owned by Alabama farmers, in addition to 2000 of the older types. The new types are used for preparing land and for cultivating, as well as for harvesting, and also stationary power jobs. Mules are helping to supply farm power shortage.

Hay farmers are making greater use of machinery than probably any other group of farmers in Alabama. They use it for planting, for harvesting and for baling, as hay is a crop which lends itself to maximum use of improved machinery. This is especially noticeable in the Black Belt of central Alabama where hay is an important cash crop. It is also essential to livestock farming on Black Belt Soil.

Professor M. L. Nichols of the Alabama Polytechnic Institute has said that 10 combines are now owned and operated by Alabama farmers. They are used for harvesting oats, soybeans and lespedeza. More of them likely will be bought, because these 10 farmers report that they are profitable. The use of modern machinery is doing more work than reducing production costs; it is encouraging diversification by making it feasible.

As Alabama farmers become established in dairy cattle and other livestock, they are building better barns and installing equipment for modern and efficient operation. There are in the state more than 20 creameries and several milk plants. A few plants make

cheese and condensed milk. They serve all the state. The addition of more livestock is accompanied by more land under fence and also better pastures.

Poultry developments in Alabama in recent years have been remarkable, and for the 1930-31 season it is estimated that 40 accredited hatcheries will be in operation, with a total capacity of 350,000 eggs. Those engaged in the poultry industry must have brooders, houses and other equipment, including fences.

Commercial canning engages 15 active plants, and there are many more inactive. There are 11 meat packing plants, serving the entire state.

While Alabama has made rapid strides in the application of machinery and power to the various phases of its agriculture, much greater development no doubt will be due to economic forces.

## Open Mesh Cotton Bags

The search for new uses for cotton as carried on by the Department of Agriculture and the North Carolina College of Agriculture and Engineering has brought into the market a "Window" type bag suitable for packing potatoes, onions and other farm products for sale at retail. The bag is in one piece of cloth, with one side woven in very open mesh and the other closely woven, permitting the printing of the brand.

As advantages for this cotton bag, it is cited that the grocer is not obliged to weigh each order, and the customer is able to see what he is buying. The cotton bag is said to be adapted to the ready package and to compete successfully in price with other bags.

## \$5,000,000 Group Life Insurance

Elizabethton, Tenn.—The American Bemberg and the American Glanzstoff corporations have taken a \$5,000,000 group life insurance policy, through the John Hancock Mutual Life Insurance Co., Inc., New York, covering more than 4000 employes at the Bemberg plants near Elizabethton. Every employe of the corporations is covered with individual amounts ranging from \$10,000 for executives to \$1100 for the lowest paid laborers.



## LETTERS FROM OUR READERS

### Unemployed Land for the Unemployed

Pomfret, Conn.

*Editor Manufacturers Record:*

Herewith is a suggestion for relieving the unemployment situation which may be worthy of consideration.

If the industries of today are so organized that mechanical devices can to a large extent be economically substituted for human labor it is evident that it is fruitless to expect improvement through channels which were open to men and women before labor saving machinery was so highly developed, and so generally used. It is advisable then to seek some natural resource which can be utilized to provide work for those anxious to accept any honest employment for themselves and their families. Nothing seems to be more promising as a solution of the problem than the inauguration of a movement to utilize unemployed lands to furnish work for unemployed labor. The difficulty is to bring them together, under supervision of experienced agriculturists who are capable of teaching unexperienced men and women how to obtain a living from the land.

It may be contended that farming is not a very profitable or desirable occupation at present, but when unemployment is almost universal any occupation which will furnish the necessities of life for people who cannot procure them through other channels should be welcome, and land, if intelligently used, will at least produce and reproduce enough to enable the worker and his family to live, if he is guided by agricultural experts who will teach him.

Any state which undertakes a movement of the character suggested will find itself benefited in two directions; viz, it will procure employment for its unemployed people, and it will add materially to the number of taxpayers when its unused lands are under cultivation.

Any such movement however should have in view not only the development of waste lands but also the permanent occupation of improved farms by laborers employed on the work. This could be done by allotting to each head of a family as many acres as he is capable of cultivating under guidance of practical farmers who have the faculty of imparting their knowledge to those who know nothing of agriculture.

In order to enable persons without money to take up land and develop it, arrangements could be made to advance to each prospective purchaser an amount each week up to, or near, the value of the labor performed by him, which would permit him to meet living expenses until his land was productive. It should be clearly understood that all such advances, together with the purchase price of the land, must be repaid in installments when the farms are on a paying basis.

In order to finance an operation of this kind, if it should be undertaken by a state, an "Agricultural District" might be organized to take in all unimproved

lands to be developed, and bonds based on a conservative valuation of these lands when improved might be issued; and all monies received for land, and as large a proportion of taxes to be levied on improved lands as might be found necessary, could be set aside as security for these bonds. The "District" could, as is usual in such cases, be administered by commissioners appointed by the Governor of each state by which the movement was undertaken.

It should be stressed by supervisors of relief operations that in order to enable workers to live on the produce of their farms, a diversity of crops should be planted which would provide variety for home needs, and as far as possible do away with the necessity for purchasing supplies. The plan therefore would not affect the large growers of staple agricultural products, which have recently been produced in such quantities they cannot be profitably marketed and when stored to await better prices have become the plaything of speculators, and of no particular benefit to the public.

It is improbable that those placed on the land, when once established, would ever again join the ranks of the unemployed, as there is no time limit to the productive capacity of their farms if properly treated, and those willing to work will be permanently cared for instead of finding themselves employed on temporary operations which when completed will leave them again idle.

A plan similar to that here suggested was put into effect on a tract of unimproved land in South Florida, and although the original settlers had no money when they began, the district developed is now one of the most prosperous sections of the state, and farmers who accepted assistance offered by the land owners are now independent citizens and substantial taxpayers.

GEORGE F. MILES.

### Pictures a "Menace"

Shelby, N. C.

*Editor Manufacturers Record:*

Referring to your editorial, "Soviet Trade," January 22, I do not think the dumping of Russian commodities in the United States is the greatest menace to this country. I believe the greatest menace to America today are the chains, combines, mergers and centralization of the moneys of the United States. In Russia, the people are forced by the rulers to work for a living. In the United States, the people are forced out of work by the chains, combines, mergers and have no work to do, and nothing on which to live.

The papers refer to the "pauper labor" in Russia; what about the unemployed in the United States? With nothing to do, nothing to eat, nothing with which to get anything to eat or wear, would you call them paupers? It seems to me our lawmakers and leaders should do something to employ the pauper labor of the United States first and then they

would be in position to ward off the outside enemy.

The greatest menace to America today seems to me to be on the inside, and not on the outside. If our leaders would enforce the laws, unchain the chained, disband the combines, "unmerge" the mergers, and decentralize the centralization of the wealth of the country, they would then have a united front with which to ward off the enemy. Our leaders seem to be blind to the menace on the inside, but wide awake to the menace on the outside. It seems to me that Congressman Williamson could see that the beam needs removing from our own eyes first; then, we could see clearly to remove the mote from the other fellow's eye.

STOUGH HOPPER

### Gasoline Tax From Water Craft for Waterway Improvement

Associated Boards of Trade of the  
Florida Scenic Highlands  
Lake Placid, Florida.

*Editor Manufacturers Record:*

In your issue of January 22 appears a vigorous editorial as to the diversion of gasoline tax from highway purposes, ending with this statement: "This diversion must be stopped unless highway building is to fall short of the needs of the various states."

It will interest you to know that at the December meeting of the Associated Boards of Trade of the Scenic Highlands, at Babson Park, a resolution was passed favoring the diversion of the gasoline tax from highway improvement if that tax was collected from water-craft, of which there are over 18,000 in Florida. The point was made, in discussion, that Florida waterways need attention; particularly now that the water hyacinth has a way of choking up canals and channels, and that it would be only fair to have the gasoline tax from water-craft spent on waterways instead of on highways.

Agreeing in principle with your general attitude, do you not think that Florida, because of its more than 3,000 miles of navigable streams, is justified in an effort to keep those streams open for commerce and cruising?

GROSVENOR DAWE, Secretary.

[The point emphasized in the editorial to which Mr. Dawe refers was that the gasoline tax collected from automobiles should not be diverted to other uses than highway improvements. Some states now refund gasoline taxes to industries, owners of watercraft, and to farmers when the gasoline is used strictly for farming operations. But some states are further endeavoring to transfer a part of the gasoline tax for school funds or other purposes. We agree with the idea that taxes paid on gasoline consumed for marine service could be used to maintain and improve navigation. —Editor MANUFACTURERS RECORD.]

# IRON, STEEL AND METAL MARKET

## General Situation in Steel Shows Seasonal Improvement

Pittsburgh, February 9—[Special.]—Steel demand underwent a distinct increase at the turn of the year but in the last two or three weeks there has been little if any further increase. Some observers think the market as a whole has grown quieter, but comparison of the flow of orders now and a month ago is hardly fair for the reason that the flow a month ago was augmented by purchases after inventory taking. The general foundation for steel consumption has probably improved materially, chiefly as a seasonal matter. One important showing steel seems to make is that it is no longer feeling an influence from general business recession, which appears to have ended in December. Now, apart from seasonal variations, it is a matter of business running along uniformly or of climbing upward after its great slip.

The daily rate of steel ingot production is probably 15 to 20 per cent above the December rate, but that was very low, and the increase hardly brings the rate of steel ingot production above about 45 per cent of present capacity, which represents a material increase from a year ago, while there is new construction now in progress promising still greater capacity.

Automobile production, cars and trucks in the United States and Canada, was officially reported at 3,509,062 for 1930, with December contributing 161,223. Estimates for January vary above and below 200,000 but there is no doubt a substantial increase occurred. For the present month some estimates run 200,000 to 225,000, but these are really guesses, as the automobile manufacturers themselves change their schedules at frequent intervals. They aim to follow the retail market closely instead of forcing stocks on their dealers as they did at this time in other years.

There has been a marked increase in steel buying by the farm implement industry, both for ordinary implements and for tractors. While there is a fair sized stock of tractors still, there are so many types that some have run out.

Rail buying, in the annual movement, was rather light and now it appears the railroads are not giving releases for actual rolling very promptly. This does not apply to the rail mill at Ensley, Ala., which is running better than other rail mills.

Sheet makers report that rather heavy

demand has just arisen for culvert stock, to go South, where road building is already beginning. In the North the culvert season does not begin until later.

While for months there have been many apparently promising pipe line projects, for both natural gas and gasoline, there has been little buying of line pipe so far. Pipe mills are now convinced that financing is the chief obstacle. This represents extreme conservatism on the part of investors, for the projects represent large returns even figuring on so short an amortization as 15 years.

Fabricated structural steel awards thus far this year just about equal the pace of November and December, which was rather light compared with the first eight months of last year, but on the whole fabricated structural steel work has been holding up much better than other steel consumption, taken as a whole. There is little erection of buildings of various classes as compared with two years and more ago but there is much more in bridges, viaducts, subways and other more or less public work.

Finished steel prices are holding quite firmly all along the line and have been since the irregular lines, in which there had been cutting, were stabilized in the fore part of December. This is something gained for the steel industry, but the trouble remains that prices in some lines are below full cost even with a heavier operating rate than is now in sight.

## Pig Iron in Steady Demand

Birmingham, Ala., February 9—[Special.]—While sales of pig iron are quite numerous the aggregate is but equal to the production right now and the output of the blast furnaces is being held down. Concessions made on round tonnages are still discussed but the home base price for iron is given at \$14, No. 2 foundry. Shipments on the last day of the past month brought the total for January up to quite a goodly tonnage and the first week of the new month sees a repetition. There is hope that some of the surplus iron may be called into commission on the active shipping now under way.

Survey of the consuming end shows steadiness, the cast iron pressure pipe manufacturers receiving lettings, and shipments being active either to consumers or to warehouses. Meeting of the sales force of one of the active pipe manufacturing concerns here developed

the fact that prospects are bright in the industry and that present year's business will be better than that of 1930. Bids have been submitted on a number of projects by the pipe companies with anticipations of early spring seeing a material booking of orders, sufficient to warrant production at satisfactory pace. Pipe shops are in splendid shape, capable of manufacturing a much greater amount and of varied sizes. The centrifugal method of production appeals to the trade now and the shops are well equipped in this direction. Other melters report improving conditions but as yet have not indicated actual change in their methods of buying.

Steel circles are showing signs of improvement. Fourteen open hearth furnaces are still producing ingots, the sheet mills and plate producers are operating around 50 per cent capacity while structural steel fabricating shops are preparing for greater production as time comes for delivery on several of the larger contracts recently announced.

Seaboard Air Line Railway Company has placed an order for 5000 tons of steel rail with the Tennessee Coal, Iron & Railroad Company to be rolled at the Ensley mills in the near future. This is but part of the requirements this road will have for the year. The rail mill is on a good schedule and with orders on books and in sight the present pace can be kept up for several months.

Structural steel fabricators announce considerable business in the offing. These shops are to speed up production during the month as time comes for delivery on some of the contracts booked in the past several weeks. Reinforcing concrete bar producers also report steady business in sight and there is active shipment of the product. Dealers throughout the country permitted their stocks to diminish and replenishing is now under way.

Good roads building projects in the Southern states are still developing business for the Portland cement manufacturers. Alpha Portland has resumed operation at its Birmingham mills after a shut-down of nearly two months. Alabama, Louisiana, the Carolinas and other Southern states have placed orders for several million barrels of cement for delivery over the next year or two. Much cement has been taken from warehouses while manufacture has been held down.

The W. S. Dickey Clay Manufacturing Company plant in Birmingham has resumed operations after several weeks' idleness, 225 men being reemployed in the manufacturing departments and clay



pit. The company manufactures vitrified salt-glazed sanitary pipe, culvert pipe, etc., with plants throughout the country and home office in Kansas City, Mo. Recent sales to the Western Electric Co. of more than a thousand carloads of vitrified salt-glazed acid-proof conduit for housing underground telephone and telegraph cables in all sections of the country is announced.

The coke trade is unchanged, production fairly good and shipments fair.

Iron and steel scrap is still slow with prices weak. Heavy melting steel is quoted at \$9.50 to \$11 with a little better interest manifested.

#### PIG IRON QUOTATIONS

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$14.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$14.50; iron of 2.75 to 3.25 per cent silicon, \$15.00; iron of 3.25 to 3.75 per cent silicon, \$15.50.

#### OLD MATERIAL

Steel rails .....	\$11.00 to \$12.00
Steel axles .....	14.00 to 14.50
Iron axles .....	14.50 to 15.50
Heavy melting steel .....	9.50 to 11.00
No. 1 cast .....	10.00 to 10.50
Stove plate .....	8.50 to 9.50
No. 1 railroad wrought .....	9.50 to 10.00
Car wheels .....	10.00 to 11.00
Tramcar wheels .....	10.50 to 11.50
Machine turnings .....	7.50 to 8.00
Cast-iron borings .....	7.50 to 8.00
Cast-iron borings (chem.) .....	12.50 to 13.00
Rails for re-rolling .....	11.25 to 11.75

### Metals Are Weak, Yet Industrial Conditions Improve

New York, February 9—[Special.]—Price weakness characterized the metal markets over the past six business days. Silver touched another new low for all time on Tuesday and Thursday when it sold at 27½¢ per ounce as against \$1.37½¢ per ounce at one time during the war, or before the price was stabilized at \$1 by the Government. Copper declined to 9½¢ per pound, which coincides with the 1930 low. Lead was reduced \$5 per ton in two stages to 4½¢ per pound, New York, the lowest price since September, 1921. Antimony sagged slightly to 7¢ per pound. Tin dipped to lowest levels for 1931 early in the week when it sold at 25½¢ per pound, but recovered somewhat later.

Poor sales, large supplies, slow consumption and continued large production have been responsible for the weakening metals markets. The weakness in one metal often spreads to another like a contagious disease and it is probable that some of the declines of last week were of a sympathetic nature.

Industrial conditions continue to improve. Automobile sales and production are increasing considerably faster than expected. They are revising upwards predictions of February automobile production by some 30,000 cars and it is probable that when official figures for January production are issued it will be

discovered that the output was some 25,000 cars better than first estimated.

Another indication of industrial expansion is the good demand reported for machinery and machine tools. Residential building operations are increasing. A larger proportion of metal is being used in several lines of manufacture as processes improve and as more attention is paid to the artistic possibilities of modern metals.

Tin consumption in the United States just now is the heaviest for several months. Not only does each automobile take seven pounds of tin on an average, but tin plate production has risen 5 per cent to 65 per cent of capacity to provide plenty of raw material for the can manufacturers. British production of tin plate, however, is tending to decline.

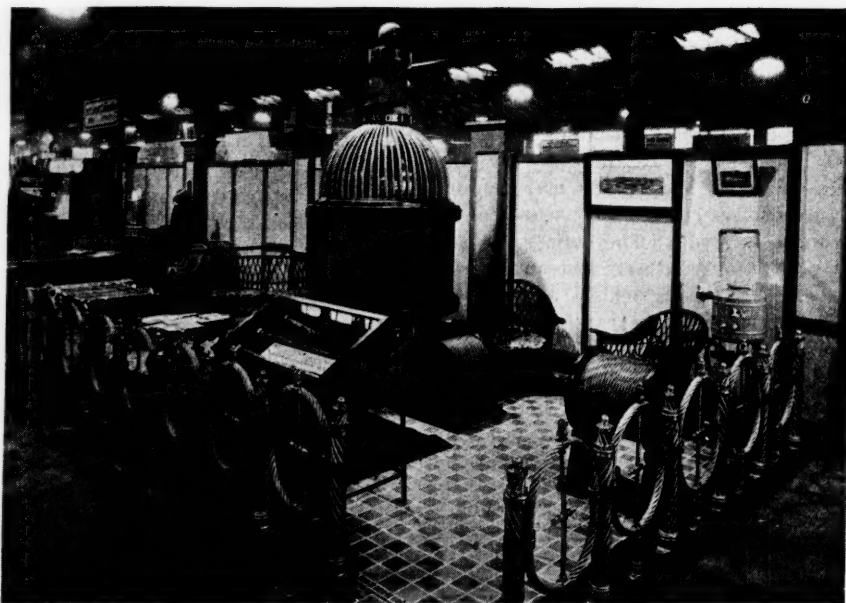
Zinc has been the only metal to show strength though it eased off at mid-week. The price of ore advanced \$1 per ton in the tri-State district of Oklahoma, Missouri and Kansas to \$27 as an average price. This forced up the price of prime western slab zinc by the same amount, or to the quotation of 4.10¢ per pound, East St. Louis, for February and March, and to 4.15¢ for April. Usually the price of ore depends upon the price of the more finished form of slab zinc. On this occasion, however, ore has been the market leader. Ore holders have become tired of selling at a loss, or with but little profit. For a month there has been a virtual deadlock between ore buyer and ore seller, but now this has been broken with the sellers winning out. The price

of zinc ore has been very irregular of late, selling at \$26, \$27 and \$28 per ton, with the bulk of the tonnage sold at \$27.

The zinc market was strong until the middle of the week when declines among other metals finally brought concessions in zinc prices. These quotations were 4.05¢ per pound, East St. Louis, by Thursday, though some producers held vainly to the 4.10¢ price. Demand for the metal has been quiet. The slow rate of improvement in the steel industry generally implies that consumption of zinc in galvanizing operations is slowing down.

The reduction of \$5 per ton in the lead price did not bring forth any great amount of business. The complete price reduction during the past two months has been \$12 per ton. It is said that American lead consumers have given up their speculative tactics of the past; in other words, they will no longer buy pig lead in anticipation of demand for their finished products, be they batteries, cables, pigment or ammunition, but rather await the receipt of orders for their products before making purchases of lead metal. Continued drops of lead prices at London are disturbing to the American trade. Surplus stocks of lead in Europe are said to be more excessive than those in the United States.

The world's visible supply of tin increased 1121 tons in January following a gain by 1700 tons the preceding month. Tin purchasing has been very light and prices have fluctuated between 25 and 26¢ per pound during the past week.



Unique Display of Broderick & Bascom Rope Products as Presented at Good Roads Show in St. Louis



# HIGHWAYS AND MOTOR TRANSPORT

## Fleet of Motor Coaches for Florida Service



One of Ten Such Coaches Now Operating Between Jacksonville and Miami

A FLEET of 10 new motor coaches has been placed in operation between Miami and Jacksonville by the Florida Motor Lines, Inc., of Orlando. In each coach 29 reclining chairs, adjustable to three positions, are supplemented by seven emergency seats, making a passenger capacity of 36. Cushion lined overhead racks provide baggage space. Windows are draped with tapes-

try, with mirrors at each set of two seats. Water from the radiator of the motor is utilized for heating, providing heat with the proper humidity. Electric fans and thermos water coolers are a part of the equipment. An emergency door provided at the rear can be opened by a slight pressure on a special handle, which immediately registers on the dashboard with a white light. A train-

like observation platform, formed by chrome-finished grill work, lends attractiveness to the rear of the bus. Green lenses on the front and red on the rear show the overall width of the bus and make it safer for night driving. Four-wheel air brakes are provided.

The motors and chassis were manufactured by the White Motor Co., Cleveland, Ohio, and the bodies are a product of the Bender Body Co., Cleveland. Equipment was furnished by the following firms:

**Electrical equipment**—Leece-Neville Electrical Co., Cleveland

**Reclining chairs**—S. Karpen & Bros., Inc., Chicago

**Heating**—Tropic-Aire, Inc., Minneapolis

**Air equipment**—Westinghouse Air Brake Co., Wilmerding, Pa.

**Signs**—Hunter Illuminated Car Sign Co., Flushing, N. Y.

**Air horns**—J. Thomas Rhamstine, Detroit

**Wheels**—Budd Wheel Co., Philadelphia

**Lenses**—Welsbach Co., Gloucester City, New Jersey

**Tires**—United States Rubber Co., New York.

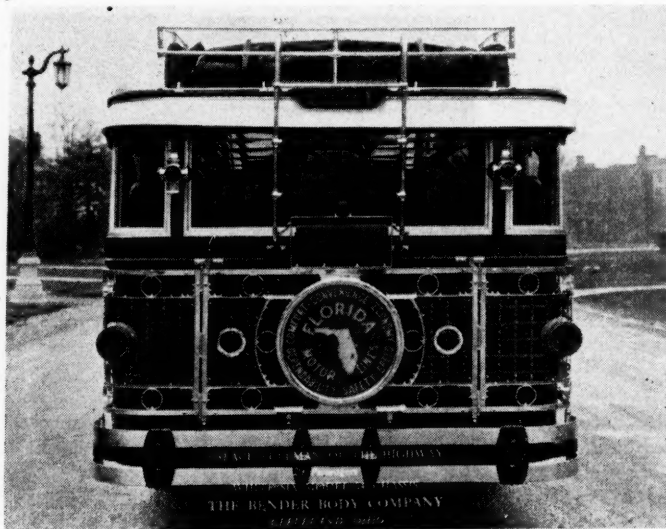
### \$9,000,000 for National Park Roads

Washington, D. C.—Plans for speeding construction of public roads in national parks to increase employment were recently discussed by Secretary of Agriculture Hyde and Secretary of the Interior Wilbur. Congress included \$1,500,000 in the recent emergency appropriation bill for building national park roads, and in addition \$7,500,000 would be authorized for the purpose under the provisions of the Leavitt bill which has passed both houses of Congress.

### 800 Miles Toll Roads for Argentina

To provide Argentina with a suitable network of highways, the Government has invited bids for construction of approximately 800 miles of hard-surfaced toll roads, according to information received by the Foreign Construction Division of the United State Department of Commerce. This program of road construction is especially significant in a country which has less than 500 miles of hard-surfaced roads suitable for all-year traffic, and augurs well for the future introduction and sale of road building machinery and automotive vehicles.

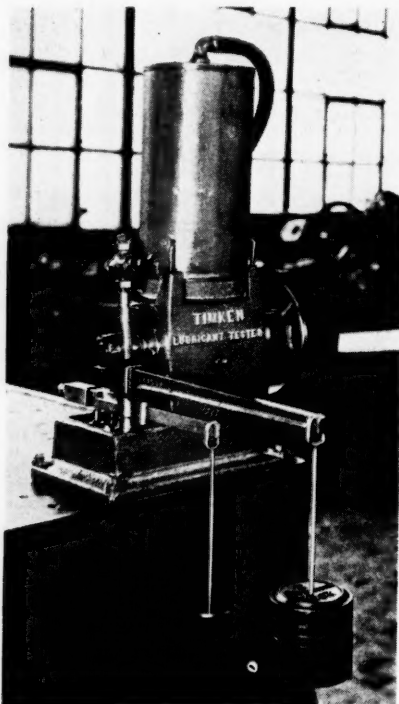
Rear of Bus Showing Train-Like Observation Platform



## NEW AND IMPROVED EQUIPMENT

### Lubricant Testing Machine

The Timken Roller Bearing Company, Canton, O., announces an apparatus for testing the load-carrying capacity of lubricants. The device was developed originally for use in the company's own laboratory to obtain accurate information on the effect of different lubricants



Timken Lubricant Tester

in connection with intricate bearing problems, and results from these tests induced the company to perfect the apparatus and put it on the market. It is adapted to automotive work, industrial plants, power plants and for other services. In addition, it may be used to obtain data on relative efficiency of different bearing metals under various conditions of load, speed and temperature, or with different lubricants. The apparatus consists essentially of a cast iron base which supports the testing mandrel, two levers and a container holding about a gallon of the lubricant to be tested.

### For Finishing Road Shoulders

The Whitcomb-Lehmer road shoulder finishing machine, manufactured by the George D. Whitcomb Company, Rochelle, Ill., and recently placed on the market, has been designed to remove the dirt left

on the shoulder and ditch contour by the "blade" and to shape it for final acceptance by the inspectors. The machine consists of elevating buckets operating

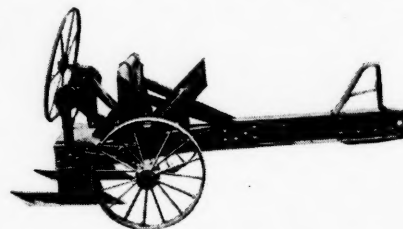


This Machine Shapes the Ditch Contour

on a rigid boom, mounted on a heavy-duty Sterling truck with an auxiliary transmission specially designed to give the necessary slow speeds, and powered with an 80-horsepower Waukesha six-cylinder engine. The grade is maintained by a hydraulic hoist, controlled by the driver, which automatically raises or lowers the entire boom assembly. The machine will handle a cut of from four to six inches.

### Dukelow Hardpan Plow

For work in hard material, in ditches and subgrading, a unit manufactured by the Dukelow Hardpan Plow Company, Joplin, Mo., will plow 4 feet wide and 15 inches deep, depth being regulated by a hand wheel on the back of the plow. When the plow is in the ground the



For Ditch Work and Subgrading

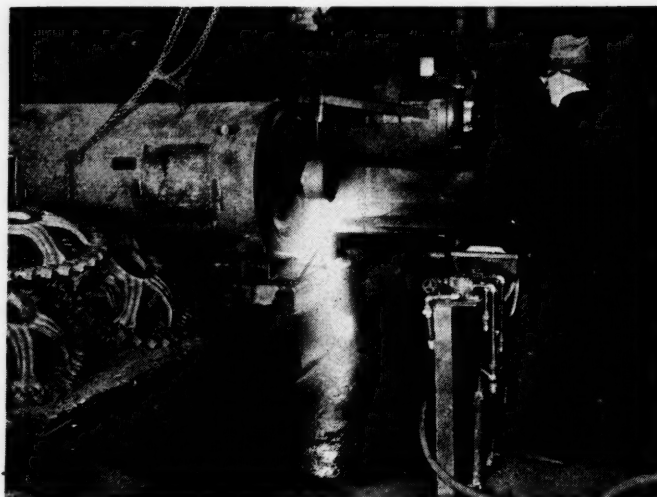
wheels idle or float ahead, making it possible to plow slopes without interference from the wheels. Points are interchangeable and extra points may be purchased as needed. The plow weighs 3000 pounds.

### Ryerson Friction Saw

By way of explaining an improved method of removing casting risers, Joseph T. Ryerson & Son, Inc., Chicago, producers of iron, steel and machinery, direct attention to an experience of the Harrison Steel Casting Co. of Attica, Ind., whose representative recently visited a plant using a Ryerson friction saw to cut through heavy structurals. It was concluded from the ease and speed with which the cuts were made that casting risers also could be cut off by this process. Tests were made and a

Ryerson saw installed in the Harrison plant, enabling the company to increase production in addition to cutting costs.

In most cases where a high speed friction saw is used, a flush cut is accomplished. On an average production it is estimated that a saw will pay for itself within three to six months. Rim and hub risers on different planes may be removed by the same equipment, the rim riser being removed first and the attachment readjusted to cut off the hub riser. The casting is rotated to make both cuts, although in many cases it is unnecessary to rotate the casting, a simpler clamping device being used.



Removing  
Sprocket  
Hub  
Riser



# CONSTRUCTION DEPARTMENT and NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

## Airports, Airplane Plants, Etc.

Ark., El Dorado—Jones, Roessle, Olschner & Welner, Archts., Ardis Bldg., Shreveport, La., reported, making survey for location, building and equipment for municipal airport.

Ga., Atlanta—J. H. Gray, Field Mgr., Candler Field, plans erecting \$25,000 administration building; work expected to go forward this year; Jess Wilhoit, Archt., Mortgage Guarantee Bldg., Atlanta. 1-8

Ga., Blakely—City, reported, interested in establishment of airport.

La., Shreveport—La-Tex Construction Co., Shreveport, reported, has contract for conditioning 100-acre tract at Barksdale Field for army aviation field; bids for conditioning 10,000 acres will be let in sections of about 100 acres; bids for second acreage will be let in few days. 2-5

La., Shreveport—Following contractors estimating on maintenance shops, garage and warehouse for Q. M. Dept., Barksdale Field, bids opened March 5: F. E. Griffin, 3010 Cresswell St.; J. S. Meriwether, Meriwether Supply Co., W. Murray Werner, Welsh & McLane, 616 Olive St., K. C. Wilson, 1025 Slatery Bldg., The Ashton Glassell Co., Inc., 260 Second St., McMichael Construction Co., City Bank Bldg., Strubbe McConnell, 3415 Velva St., Buckelew Hardware Co., 122 Texas St., and Miller & Gibson, 120 E. Lister St., all Shreveport; W. C. Salley, 511 Ouachita National Bank Bldg., Monroe; S. & W. Construction Co., Shrine Bldg., Memphis, Tenn.; Worden-Allen Co., 208 S. LaSalle St., Chicago, Ill., and Sanford Brothers, Inc., 201 Washington St., Montgomery, Ala. 2-5

Mo., Kansas City—Inland Aviation Sales Corp., incorporated; Daniel J. Brenner, 5339 Paseo St.

Mo., Robertson—St. Louis Flying School, Inc., chartered; Richard D. Hughes, John Lionberger.

Okla., Oklahoma City—Clint Johnson, 2130 W. Park St., B. S. Graham, reported, interested in establishment of airport.

Okla., Tulsa—Tulsa Park Bd. reported, engaged Smith & Senter, Archt., Philtower Bldg., to prepare plans for administration building, cost \$40,000 at airport and Blair Brothers, Exch. Bank Bldg., engaged as architects for \$30,000 hangar; stucco and steel construction; Charles W. Short, Jr., 1607 E. 12th St., Field Mgr., will make surveys of hardsurfaced runways. 1-8-31

Tenn., Trenton—Trenton Chamber of Commerce, Chas. E. Meyers, Sec., advises plans and specifications covering airport have been completed; tract embraces 70 acres, 8 landing directions, markers, etc.; will probably erect small hangar. 1-22

Tex., Dallas—National Air Transport Co., 1101 Commerce St., reported, acquired 3 acres land adjoining Love Field for airport station; will soon begin work on \$75,000 depot. 1-22

Tex., Duncan Field, San Antonio—Office of Constructing Q. M., Fort Sam Houston, receives bids March 5 for oil reclamation building; 83x68 ft.; brick, struct. clay tile; struc. steel; rein. conc.; metal lath and plaster; conc. floor; plumbing and electric wiring. 2-18

Tex., Fort Worth—Quisile & Andrews, 2212 W. Seventh St., Fort Worth, reported, low bidder at \$29,987 for construction of building at Municipal Airport to house repair shops of Texas Aero Corp. 2-5

Va., Winchester—Admiral Byrd Airport, Inc., 29 N. Loudoun St., reported being organized by Lawrence C. Hollis, and associates, with \$10,000 capital to establish airport at Bowles Flying Field.

## Bridges, Culverts and Viaducts

### Proposed Construction

D. C., Washington—Arlington Memorial Bridge Comsn., Navy Bldg., Washington, D. C., opens bids Mar. 4 for furnishing and delivering granite facing for memorial entrance to cemetery of Arlington Memorial bridge; approx. 61,500 cu. ft. cut granite, mostly 6 and 8-cut.

Fla., Clearwater—Pinellas County Commrs. have low bid from Florida Steel Construction Co., Tampa, at \$12,653, for Johns Pass bridge repairs; let contract to C. T. Dawkins, Inc., 2613 Sunset Drive, Tampa, at \$1969 for 60 ft. of steel groyne in place.

Georgia—State Road Dept. receives bids for 8 bridges. See Roads, Streets and Paving.

La., Tallulah—Madison Parish Police Jury, P. O. Benjamin, Sec. and Engr., opens bids Mar. 4 for steel bridges with conc. piers over Lock Bayou and Indian Bayou, Eighth Ward.

Mississippi—See Roads, Streets and Paving.

Mo., St. Louis—Bd. of Aldermen passed ordinance appropriating \$1,370,000 for building East Side Union Station approach to Municipal Bridge, one of 5 approaches to be built to give Terminal Railroad Association access to the bridge; contract for first approach to be let early in February.

Oklahoma—State Highway Comsn. has low bids for 11 bridges. See Roads, Streets and Paving.

Okla., Tulsa—City, H. A. Parker, City Engr., has plans in progress for \$500,000 bridge over Arkansas River, 21st St.; steel, rein. conc., 40 ft. wide, 60-ft. approaches; Victor H. Cochran, Wright Bldg., and Wood & Witten, 204½ E. Third St., Conslt. Engrs. 12-18-30

Tennessee—See Roads, Streets and Paving.

Texas—See Roads, Streets and Paving.

Tex., Austin—City, Adam R. Johnson, Mgr., opens bids Feb. 18 for Cont. 37, conc. bridge, 30th St. over West Waller Creek, 27,700 lb. rein. steel; also for Cont. 38, conc. bridge over Waller Creek, 26th St., 14,600 lb. rein. steel; H. R. F. Helland, Conslt. Engr.; C. G. Levander, Bridge and Drainage Engr.

Tex., Austin—City, Adam R. Johnson, Mgr., opens bids Feb. 18 for Cont. 27, 100-ft. conc. bridge over Shoal Creek, Fifth St., 980 cu. yd. excavation, 12.27 cu. yd. conc., 143,600 lb. rein. steel.

Virginia—See Roads, Streets and Paving.

Va., Richmond—Seaboard Air Line Ry. Co., W. D. Faucette, Ch. Engr., Norfolk, expend \$11,000 for placing steel casing around piers of bridge.

## Contracts Awarded

Georgia—State Highway Bd. let contracts for 19 bridges. See Roads, Streets and Paving.

Md., Baltimore—City, H. F. Lucke, Jr., Bridge Engr., opens bids about Mar. 1 for \$250,000 bridge over Gwynns Falls and W. M. Ry.; 3 rein. conc. arches, open spandrel type, 40-ft. conc. roadway, 2 6-ft. sidewalks, total length about 450 ft.; when ready plans to be had from Nathan L. Smith, Highways Engr. 1-1

Miss., Natchez—Adams County Bd. of Supvrs., John R. Junkin, Pres., let contract to Currie & Corley, W. Silas Brown St., Jackson, for bridge over Sandy Creek, District 2. 12-25-30

Tennessee—State Dept. of Highways and Public Works let contracts for 10 bridges. See Roads, Streets and Paving.

## Canning and Packing Plants

Fla., Crestview—Carey L. Rice interested in having canning company install plant for fruit and vegetables.

La., Bossier City—W. F. Collier, 931 Dailzell St., Shreveport, reported, interested in establishment of canning plant.

Miss., Tylertown—Robert Babington, J. H. Bailey and J. B. King, reported, interested in establishment of packing and produce plant. 1-15

Mo., Kansas City—Celebrated Foods, Inc., chartered; Stanley Garrity, Security Bldg.

Tex., Farmersville—Farmersville Cannery Co., M. A. Jones, Sec., interested in erection of cannery.

## Drainage, Dredging and Irrigation

Ala., Mobile—U. S. Engr. Office let contract to National Dredging Co., 233 Broadway, New York, at \$153,750, for dredging 3,000,000 cu. yd., Mobile Harbor. 1-8

Fla., Miami Beach—See Miscellaneous Construction.

Fla., Miami—U. S. Engr. Office, Jacksonville, let contract to Central Dredging Co., 307 N. Michigan Ave., Chicago, Ill., for dredging 137,000 cu. yd. soft material and 274,000 cu. yd. rock, Miami Harbor. 2-5

Maryland—U. S. Engr. Office, Custom House, opens bids Feb. 20 for dredging approx. 4073 cu. yd., place measurement, mouth of Nandua Creek, Va., 38,690 cu. yd. mouth of Occohannock Creek, Va., 33,440 cu. yd. waterway from Tangier County to Ewell (Smith Island, Md.), and 41,490 cu. yd., Elk River, Md.

N. C., Belhaven—U. S. Engr. Office, Wilmington, has low bid from Harrison-Wright Dredging Co., 4 W. Third St., Charlotte, at \$40,760 for dredging Belhaven Harbor. 1-22

Tex., Corpus Christi—U. S. Engr. Office, Post Office and Tremont St., Galveston, let contract to Standard Dredging Co., Guaranty Bldg., Galveston, at \$309,244, for dredging channel from Aransas Pass to Corpus Christi. 1-29



Virginia—U. S. Engr. Office, Norfolk, let contracts for dredging, involving approx. \$350,000: Tribble Shoals, Atlantic, Gulf & Pacific Co., 15 Park Row, New York; Rock-landing Shoals, government plant. 1-22

Va., Norfolk—U. S. Engr. Office let contracts for dredging: 570,000 cu. yd., Norfolk Harbor, Standard Dredging Co., 2701 Woolworth Bldg., New York, 24 cents per cu. yd.; 223,000 cu. yd., Nansemond River, D. F. Tyler Corp., 716 E. Charlotte St., Norfolk; 1,629,000 cu. yd., James River, Atlantic, Gulf & Pacific Co., 15 Park Row, New York, 8.97 cents per cu. yd.; to Norfolk Dredging Co., P. O. Box 494, for 12 ft. in Edenton Harbor and 10 ft. in Albemarle Sound, at \$72,370; 1,682,000 cu. yd., James River, Standard Dredging Co., Woolworth Bldg., New York, 11 cents per cu. yd. 2-5

Virginia—See Maryland.

## Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Ga., Augusta—Conference to promote plans for construction of power plant and distribution of electricity in Augusta, will be held March 1, between Augusta Canal Comsn., Burns & McDonnell Engineering Co., Interstate Bldg., Kansas City, Mo., and Paul M. Thayer, holder of franchise. 11-20

Ga., Thomson—Thomson Light & Water Co., reported, plans installation of Diesel engine and auxiliary equipment.

Kentucky—Kentucky Utilities Co., Louisville, controlled by Mid-West Utilities Co., Chicago, Ill., combined properties of itself and affiliated companies in 111 cities and communities into an operating division to be known as Bluegrass division of Kentucky Utilities Co., and will serve more than 50,000 light and power customers; headquarters will be in Lexington, J. P. Pope, Div. Mgr.; division is one of 4 operating units to cover state of Kentucky and extend over into Virginia.

Maryland—Eastern Shore Public Service Co., Salisbury, reported, acquired Maryland Light & Power Co., subsidiary of Empire Public Service Co., 1600 Arch St., Philadelphia, Pa.; purchase, subject to approval of Public Service Comsn., Baltimore, Md.; gives control of practically all power companies on Eastern Shore.

Md., Centerville—City has bill before Legislature asking for bond issue for electric plant.

N. C., Lexington—City, reported, granted permission to interested power companies to make surveys of city's light and water properties with view to submitting bids for purchase.

Okla., Davis—Oklahoma Gas & Electric Co., Oklahoma City, acquired electric distribution system at Davis, 20 miles from Ardmore, from T. H. Slover; will rebuild entire distribution system and connect to the 66,000 volt line running close to town; necessary substation equipment will be installed in adjacent switching station; included in purchase was ice plant which will be augmented by construction of modern refrigerator ice storage and ice dock located in center of town.

Okla., Fairfax—City plans voting on \$120,000 electric light and power plant bonds.

Okla., Ponca City—City votes Feb. 16 on \$36,000 bonds for water system and for electric system purchase.

Okla., Ryan—See Ice and Cold Storage.

Okla., Tulsa—Public Service Co., Tulsa, serving Tulsa and 113 other communities, reported, plans substation with capacity of 3000 kw. at Eighteenth St. and Midland Valley R. R.; 1000 kw. substation will be constructed on Thirty-first St. near Riverside Dr.; construct 4000 volt feeder extending from northeast substation at Peoria and Admiral; add new oil circuit breakers and erect building for housing efficient control equipment; improve service in rural districts; construct H-frame, 66,000 volt transmission line, 52 miles long, with capacity of 5000 kw. from Wilburton to Arkansas state line; erect substation at Red Oak; construct transmission line from Tahahina, serving Albion, Clayton and Tuskahoma; rebuild several miles of track between McAlester and Hartshorne; replace tracks in McAlester; contemplate 15 miles of rural line for Nowata district; complete water system for Westville.

Tenn., Johnson City—City authorized by Legislature to hold election on \$1,000,000 electric light and power plant bonds. 1-22-31

Tenn., Knoxville—City, George R. Dempster, Mgr., reported, considering erection of lighting plant.

Texas—Central Power & Light Co., San Antonio, plans expenditure of \$34,000,000 during 1931 for extensions and improvements through south and southwest Texas; included in budget are: Interconnection of Central System with Rio Grande Valley System by construction transmission line from Falfurrias in Gulf Coast district to connect with Valley transmission system at point between Pharr and Edinburg; this transmission line will be 70 miles long and will be operated at 66,000 volts; preliminary survey has started; complete this summer. Another project is hydro plant on an irrigation canal adjacent to Rio Grande River near Eagle Pass; preliminary work started, completion by 1932; project being developed as result of negotiations between Central Power & Light Co. and Maverick County Irrigation District No. 1, formed to irrigate about 60,000 acres of land in Maverick County adjacent to Rio Grande River; plant will have maximum capacity 13,672 h. p.; actual construction work will be started in spring; transmission line now being constructed from Asherton to site of proposed plant, 70 miles long, 66,000 volts; Company also will make various improvements to local substations, power plants and distribution systems; continue extension lines into rural districts; electric service in Valley district will be strengthened by construction 66,000 volt line between San Benito and Brownsville; construct ice plant at Rio Grande City adjacent to water plant, brick and tile; build car icing dock near tracks of Missouri Pacific lines at Weslaco; plan improvements to existing filtration plants by Edinburg, McAllen and San Benito; also construct additional water mains to new territories; extend transmission electric service from Taft to Woodsboro; drill new water wells at Bishop, Beeville and Taft; replace street cars in Corpus Christi with motor buses; construct transmission lines and substations near Gonzales; complete 2 power plants under construction on Guadalupe River; make further extension into rural Guadalupe districts; lay additional water mains at Gonzales, Luling and Rungo; drill wells; add to pumping equipment at Schulenburg; drill water well at Gonzales; extend electric service to Inez by construction of substation and distribution system; improve power line at Glidden; improve ice plant at Eagle Lake; rebuild ice vault; improve local distribution system in Victoria, also ice distribution equipment; construct transmission line from Asherton to Carrizo Springs; increase capacity of substation serving Brackettville; local distribution system at Marfa and Alpine; extend local distribution system at Presidio; add to ice plant at Alpine; improve Laredo office building; purchase additional cars for Laredo street railway; improve Laredo water filtration plant, etc.

Virginia—Virginia Electric and Power Co., Richmond, plans expenditure of \$4,000,000 in 1931; Board of Directors authorized budget of \$2,000,000 for the year to which will be added the \$2,000,000 left over from construction funds of 1930; approximately \$1,000,000 will be spent in Richmond division, comprising Richmond, Petersburg, Roanoke Rapids and Fredericksburg; major items include: \$540,000 for miscellaneous electric service extensions; \$80,000 for 10 new busses for replacement in Richmond; \$34,000 for additional 13,000-volt circuit from 12th St. power station to Cedar substation in Fulton; \$26,000 for booster pump in Twelfth St. power station; \$17,000 for power circuit on Summers Ave.; \$30,000 for extensions electric service in rural communities; garage at Roanoke Rapids and Fredericksburg. 1-8-31

## Fertilizer Plants

Ark., Little Rock—Home Fertilizer Works, Inc., incorporated; J. K. Riffe, Boyle Bldg.

S. C., Aiken—G. Ober & Sons, 110 E. Lombard St., Baltimore, Md., plans erect fertilizer and mixing plant, Aiken; A. V. Bethea, V. P. Co-Operative Cotton Assn., will be manager.

## Flour, Feed and Meal Mills

N. C., Brevard—Maiden Hair Falls Milling Co., Inc., capital \$50,000, chartered; J. D. Silverstein, L. E. Bagwell.

Tex., Dalhart—Mayfield Feed and Grain Co., A. J. Mayfield, P. O. Box 145, completing mill and elevator plant; cost \$15,000; install \$10,000 equipment; install grading, mixing and cold molasses processing machinery, Anglo-American Mill Co., Owensboro, Ky., equipment contractors. See Want Section—Machinery and Supplies. 1-29

## Foundry and Machine Plants

Mo., Kansas City—Keystone Mfg. Co., A. W. Johnson, Mgr., 513 Hall Bldg., reported, plans establishing aluminum foundry for manufacture of oil and gasoline register for automobiles.

Mo., Joplin—Myers Tri-State Supply Co., 501 Wall St., acquired Crawford-Cox Machine Works, 306 Wall St.; will improve and occupy.

Okla., Oklahoma City—Fremont Foundry and Valve Works, capital \$150,000, incorporated; R. B. Fremont, 1340 W. Fifth St.; operate plant for manufacture castings and other equipment for oil fields.

## Garages and Filling Stations

Ky., Hazard—Baker Motor Co. incorporated; Herbert M. Baker, M. K. Eblen.

Ky., Louisville—Highland Taxi Co. incorporated; George E. Balmer, 2206 W. Oak St.

Ky., Thompkinsville—Thompkinsville Motor Co., capital \$12,000, incorporated; Ben Bedford, S. T. Hagan.

Md., Baltimore—R. J. Cremen, Pennington Ave., and Arundel Place, plans garage, N. W. Pennington Ave. and Nora St.; 1 story, brick, 60x100 ft.; George Wessel, Archt., 601 W. 40th St.

Md., Baltimore—University Co., Inc., 837 Hollins St., incorporated; Harry Klein, 3664 Falls Road.

Md., Baltimore—Standard Oil Co., Standard Oil Bldg., construct filling station 2500 Oak St.; brick and stucco; 1 story; 70x16 ft.

Md., Baltimore—V. J. Schell, 3500 Fleet St., let contract to Ralph Simmers, 4547 Harford Rd., for garage; 1 story, brick, 76x150 ft.; David Harrison, Archt., 3735 Reisterstown Road.

Md., Baltimore—Martin J. Barry, Oliver and Charles Sts., has plans by Frederick Thomas, 726 33rd St., for garage addition, Maryland and North Aves.; limestone, built-up roof.

Md., Baltimore—Sun Oil Co., Haines and Warner Sts., plans erecting service station S. E. Cor. Reisterstown Rd. and Auchentoroly Terrace.

Mo., Kansas City—James M. Robertson Motor Co. incorporated; James M. Robertson, 449 W. Dartmouth Road.

Mo., Kansas City—Nash-Golden Motor Co., incorporated; Caroline Golden, 3503 Jefferson St.

Mo., St. Louis—A. B. C. Tire Co., Inc., 2752 Chouteau Ave., incorporated; Edwin A. Conrad, 20 S. Gore St.

Mo., St. Louis—Nelson Garage, Inc., capital \$20,000, chartered; Nimrod J. Nelson, 4228-A Clarence St.

Mo., St. Louis—St. Louis Auto Livery, Inc., chartered; John F. Corey, 6100 Kennerly St.

N. C., Forest City—B. B. Doggett, reported, will rebuild burned building.

N. C., Winston-Salem—Ashley-Baggs, Inc., capital \$50,000, incorporated; Hoke S. Baggs, 544 Oaklawn Ave.

S. C., Manning—Hill Chevrolet Co., capital \$20,000, incorporated; B. F. Hill, L. C. Prothro.

Tenn., Lawrenceburg—Pioneer Chevrolet Co., Inc., chartered; W. W. Massey, W. B. Locke.

Tenn., Memphis—C. W. Knoten, 1505 E. McLemore Ave., plans filling station.

Tenn., Memphis—Johnson Motor Co., 162 S. Main St., reported, will lease service building, Union Ave. and Pauline St., to be erected by Dave Dermon, Dermon Bldg.; brick and steel, 1 story, 82x106 ft.; cost \$28,000.

Tenn., Memphis—Pan American Corp., H. S. Read, Dis. Mgr., Harnsworth Bldg., reported, plans erecting filling station, Parkway and Central Ave.; 1 story, comp. roof, brick, conc. floors.

Tex., El Paso—Burns-Eastland Motor Co., capital \$40,000, incorporated; E. S. Burns, 908 Cincinnati St.

Tex., Fort Worth—Bill Townsend Tire Co., Fourth and Taylor Sts., receiving bids for erecting master service station, Burnett St.; face and common brick, 2 story, 100x112 ft.; steel beams; W. D. LaDue, Archt., Akron, O.

Tex., Goose Creek—Henry Cathringer, Inc., capital \$40,000, incorporated; Henry Cathringer, W. W. Weikel.

Tex., Pleasanton—Humble Oil & Refining Co., Humble Bldg., Houston, reported, let contract after May 1 for filling station; F. A. Watts, Ch. Engr., Humble Bldg., Houston. 10-30

Tex., San Antonio—Sam Jacobs, 1702 E. Commerce St., remodel filling station E. Commerce and New Braunfels Sts.; Will N. Noonan Co., Archts., Builders Exchange Bldg.

W. Va., Fairmont—American Oil Co., American Bldg., Baltimore, Md., taking bids on filling station, Fairmont; brick and stucco, 1 story. 10-2

### Gas and Oil Enterprises

Ga., Columbus—Georgia Power Co., Public Relations Dept., John R. Marsh, Mgr., Atlanta, advises whatever revision of mains, etc., are necessary in connection with company's plans for institution of natural gas service in Columbus will be done by Allied Engineers, Inc., construction agency of Georgia Power Co.; extensions of pipe lines to city limits will be done by Southern Natural Gas Corp., Watts Bldg., Birmingham, Ala. 1-29

Kentucky—Columbia Gas & Electric Co., 61 Broadway, New York, and interests in control of Detroit City Gas Co., Detroit, Mich., reported, signed agreement for construction of natural gas pipe line by Columbia Gas & Electric Co. from point near Ashland to Detroit at cost of \$25,000,000; also reported, completed negotiations with Moody-Seagraves interest, Esperson Bldg., Houston, Tex., for large gas reserves in southwest and for engineering participation in building of line to Atlantic seaboard.

Ky., Lexington—Refiners Oil Corp., capital \$500,000, incorporated; George W. Norton, Inter-Southern Bldg., Louisville.

Louisiana—United Gas Public Service Co., Esperson Bldg., Houston, Tex., will own principal operating subsidiary of United Gas and operate an extensive natural gas system covering portions of Texas, Louisiana, Mississippi, Alabama and Florida, including natural gas wells and producing acreage, pipelines, and distribution systems; these properties include properties of Louisiana Gas & Fuel Co., gas production properties in Louisiana owned by Texas-Louisiana Production Corp., gas transmission and distribution properties hitherto owned by Texas-Louisian Pipe Line Corp. and Southwest Distributing Co. and pipeline extending from point north of Jackson, Miss., to Mobile, Ala.; Bogalusa, La.; Gulfport, Miss., and Pensacola, Fla., as well as certain other natural gas production, pipeline and distribution properties; United Gas Public Service Co. will have an authorized capitalization consisting of 500,000 shares of preferred stock and 2,500,000 shares of common stock; all securities of United Gas Public Service Co. to be presently outstanding will be owned by United Gas Corp. 1-29

Mo., Kansas City—Missouri-Arkansas Gas Co., capital \$100,000, incorporated; Paul Witten, Conway, Ark.

Mo., St. Louis—Acetylene Gas Co., 3411 Pine Blvd., increased capital \$25,000 to \$50,000.

Oklahoma—Western Service Corp., Oklahoma City, Earl R. Ernberger, Pres., plans expending \$250,000 for improvements, including laying 50 mile gas pipe line from Chickasha field, build 5 community gas systems and extend service to Tuttle, Minco, Amber, Pocomasset and Union City; applied for franchise Tuttle and Minco.

Okl., Laverne—State Fuel Supply Co., Traders Natl. Bank Bldg., Oklahoma City, started work on 4½-in. gas pipe line to Laverne and gas distribution system in city; Buffalo will vote Feb. 24 on granting gas franchise; G. R. Carpenter, Supt. of Company. 1-22

S. C., Anderson—Anderson Gas & Utilities Co., C. J. DeMers, Mgr., 307 N. Main St., plans expending \$40,000 for improvements and expansion.

Tennessee—Memphis Natural Gas Co., 158 Madison Ave., Memphis, advises contracts will not be let on West Tennessee project before some time in March.

Tenn., Memphis—Gulf Refining Co., Frick Bldg., Pittsburgh, Pa., reported, soon let contract for four 1,037,000 gal. steel storage tanks, trackage, office, etc.; B. F. Burke, 231 Atherton Dr., New Orleans, La., Engr. 10-2

Tenn., Memphis—Memphis Natural Gas Co., Commercial Bank Bldg., reported, receive bids in May for pipe for high pressure natural gas line Memphis to Jackson, Miss. 8-28

Texas—Western Gas Co., affiliated with El Paso Natural Gas Co., Bassett Tower, El Paso, commenced construction of 300 mile natural gas pipe line system as extension of system of El Paso Natural Gas Co. to serve communities, copper industry and other industries in and about Douglas and Bisbee, Arizona, and Cananea, Mexico, and in intermediate territory along the line; line from El Paso to Douglas, 235 miles long, will be

of 12¼-in. O. D. pipe to be operated initially at 625 lbs. pressure with provision for increasing pressure to 800 or 1000 lbs.; pipe for this section being furnished by A. O. Smith Corp., Milwaukee, Wis.; all pipe beyond Douglas, Arizona, is being furnished by Republic Iron & Steel Co., Youngstown, Ohio; lines are being laid under contract with Bechtel Kaiser Co., Ltd.; new line will be equipped with 2 pumping stations, 1 near El Paso, Tex., other Deming, New Mexico; El Paso station will contain three 800 h. p. gas engine driven compressors and Deming Station, 2 similar units, all manufactured by Cooper-Bessemer Corp., Mt. Vernon, Ohio; line of El Paso Natural Gas will be reinforced by construction of 2 compressing stations located approximately 1-3 and 2-3 of distance from Jal, New Mexico, where gas is received, to El Paso; stations will each contain three 800 h. p. Cooper-Bessemer compressor units; compressing stations will be constructed by Stone & Webster Engineering Corp., 49 Federal St., Boston, Mass., from plans prepared by Ford, Bacon & Davis, Inc., who will supervise and inspect construction activities of Bechtel Kaiser Co., Ltd., and will be represented also in construction of pumping stations; miscellaneous equipment, while not yet specifically purchased, has been negotiated for and purchases will be consummated in immediate future; no additional proposals for such equipment will be entertained. 2-5

Texas—Arkansas Fuel Oil Co., Ardis Bldg., Shreveport, La., reported, plans 70-mile pipe line from Moncrief-Farrell oil field, 5 miles north of Longview, to Louisiana Oil & Refinery Corp.'s refinery near Shreveport; 6-inch welded pipe, estimated cost \$450,000, work to begin soon. 2-5

Tex., Amarillo—Merger, reported, of Dixon Creek Oil and Cockrell-McIlroy Co., both Amarillo Bldg., and the incorporation of Dixon Creek Oil & Refractory Co.; S. D. McIlroy is president.

Tex., Dallas—Cherokee Pipe Line Co. and Pilot Oil Co., organized by Tom E. Cranfill, 6255 Oram St., E. B. Germany and M. S. Church, Linz Bldg.; Cherokee Pipe Line Co. will lay line from Joiner field to a 30 car loading rack on International Great Northern line near Overton.

Tex., Dallas—Pilot Oil Co. incorporated; M. S. Church, Linz Bldg.

Tex., Fort Worth—National Vego-Gas Corp., capital \$60,000, incorporated; John S. Fogarty.

Tex., Fort Worth—Inland Waterways Pipe Line Co., incorporated; F. Kirk Johnson, 2610 Greene St.

Tex., Longview—Southern Oil Refining Co., El Dorado, Ark., reported, construct refinery here.

Tex., Midland—Tex-Mex Petroleum Corp., incorporated; L. B. Lancaster, A. L. Abell.

Tex., Refugio—Atlantic Pipe Line Co., 260 S. Broad St., Philadelphia, Pa., reported, acquired properties of Gulf Coast Pipe Line Co. in Refugio field; included in purchase is a 28 mile line from Refugio to Harbor Island, near Port Aransas, tank farms and gathering facilities at Refugio and terminal facilities.

Tex., Tyler—E. L. Chapman and G. L. Rowsey, reported, plans erection of 10,000 bbl. refinery, to be connected with 6-in. pipe line to Joiner-Bateman area.

Tex., Wichita Falls—Taconian Oil Co. incorporated; J. T. Harrell, 1615 Buchanan St.

Tex., Wichita Falls—Hamilton Petroleum Co., Incorporated; W. B. Hamilton, 1106 Brook St.

Va., Roanoke—Roanoke Gas Light Co., W. J. McCorkindale, Mgr., of local subsidiary, Central Public Service Corp., 105 W. Adams St., Chicago, Ill., reported, announced expenditure of \$91,000 for improvements at plant; work near completion of \$54,000 gas bench; two additional units will be repaired and improved at cost of \$25,000; install \$12,000 coke crusher and screening equipment. 9-18

### Ice and Cold-Storage Plants

Ark., Fort Smith—Quix-Kold Corp., C. C. Beasley, Pres., Oklahoma City, Okla., reported, plans constructing \$50,000 dry ice plant; 1 story, 50x100 ft., conc. and steel; capacity 2½ tons daily; work to begin in April.

Ark., Hot Springs—Bodine Ice Machine Co., 600 Prospect St., Springfield, Mo., constructing 10 ton ice plant for M. P. Cash.

Ark., Paragould—Arkansas Utilities, Frank E. Scovill, Mgr., expending \$24,000 for improvements to ice plant; install electric ice making machinery; enlarge storage room; install condensers; water treating plant, etc.

La., Monroe—W. H. Blane, reported, has contract for erecting addition to plant of Independent Ice Co., Hall & Layton Sts.; 1

story; 52x71 ft.; install \$11,000 equipment; Layne-Louisiana Co., 210 Broad St., Lake Charles, has contract for drilling artesian well. 1-29

Mo., Mansfield—Bodine Ice Machine Co., 600 Prospect St., Springfield, Mo., making changes and additions to Mansfield Ice Plant.

Mo., Richland—Bodine Ice Machine Co., 688 Prospect St., Springfield, furnishing deep well pump complete for city.

Okla., Muskogee—Bodine Ice Machine Co., 600 Prospect St., Springfield, Mo., making ice plant and 1000 ton ice storage for Mid-West Fruit Co., 123 W. Okmulgee St. 2-5

Okla., Ryan—Town, C. M. Dean, Mayor, will erect 10 ton ice plant and 340 h. p. electric plant; 24x60 ft., brick, comp. roof, conc. floors; will open bids in April for equipment; C. E. Collins, Constr. Engr. 2-5

Texas—See Electric Light and Power.

Tex., El Paso—J. O. Hamilton, Las Cruces, N. M. and associates, reported plans establishing dry ice plant; cost \$50,000.

Tex., Taylor—Poultry Producers Assn. of Central Texas, Chris Garry, New Braunfels, Pres., reported, establish branch plant.

Va., Fredericksburg—Inland Service Corp., controlled by Inland Utilities, Inc., 222 N. Third St., Harrisburg, Pa., reported, plans \$100,000 ice plant.

### Iron and Steel Plants

Tex., Dallas—Scullin Steel Co., 6700 Manchester Ave., St. Louis, Mo., advises have abandoned idea of building plant at Fort Worth; probabilities are, however, that company will build at Dallas. 2-5

### Land Development

Fla., Clermont—Inland Groves Corp., incorporated; G. F. Westbrook, L. S. Fields.

Fla., Daytona Beach—Ocean Holding Co., incorporated; H. A. Horn, 411 Main St.

Fla., Fort Pierce—Southern Consolidated Corp., incorporated; J. A. and R. E. McNeill.

Fla., Ocala—Manko Co. incorporated; J. Camp, 909 E. Fifth St.

Fla., Miami—Seaway Corp. incorporated; F. B. Dowling, City Natl. Bank Bldg.

Fla., Sarasota—Sarasota Waterfront Real Estate Co., incorporated; H. L. Williford, Palmer Natl. Bank & Trust Bldg.

Fla., Tampa—M. F. S. Land Co. incorporated; A. B. McMullen, 110 West Shore Blvd.

Fla., Wacahula—J. G. Anderson Realty Co., incorporated; M. D. Anderson, D. T. Dasher, Ga., Austell—See Textile Mills.

Ky., Covington—White Villa Country Club, capital \$15,000, incorporated; P. J. Anthy, Henry L. Peets.

La., New Orleans—Regina Realty Corp., capital \$50,000, incorporated; Felix M. Isaacson, 2408 Broadway.

Md., Baltimore—Joseph F. Moreland, 5404 Harford Road, develop 41-acre cemetery. See Miscellaneous Construction.

Md., Baltimore—State Properties, Inc., 215 N. Calvert St., chartered; David Kleiman.

Md., Brentwood—King Development Co. incorporated; Francis M. Deremer, Brentwood.

Md., Salisbury—Laconia Corp. incorporated; S. P. Sarbanes, Seth P. Taylor.

Mo., Laclede—Gen. John J. Pershing State and National Park Assn., A. J. Caywood, Pres., plans development of Pershing Memorial Park, 200 acres.

Mo., Overland, St. Louis—Rico Realty Co., capital \$30,000, incorporated; John O'Connell, Overland; Wm. R. Murphy, 2626 N. Euclid, St. Louis.

Mo., St. Louis—Perco Realty Co., incorporated; W. C. Maxeiner, 4553 Olive St.

Mo., St. Louis—A. B. C. Recreation Camp, incorporated; Erwin A. Conrad, 20 S. Gore St.

N. C., Asheville—Senyah Farms, Inc., capital \$50,000, chartered; J. W. Haynes, Medical Bldg.

N. C., Raleigh—Community Development Corp., capital \$100,000, incorporated; F. C. Handy, Citizens Bank Bldg.

S. C., Anderson—E. S. Draper, Landscape Archt., 1516 E. Fourth St., Charlotte, N. C., retained to prepare complete landscape plans for development of new residence grounds adjacent to Anderson College.

S. C., Columbia—Dr. R. E. Seibels, 1512 Marion St., Columbia, retained E. S. Draper, Landscape Archt., 1516 E. Fourth St., Charlotte, N. C., to prepare plans for landscape development of estate in Heathwood.

S. C., Greenville—Greenville Golf Course, Inc., chartered; J. A. Rose, 19 Otis Ave.



S. C., Spartanburg—Real Estate Improvement Co. incorporated; R. L. Mitchell, 584 Otis Blvd.

Tex., Amarillo—Fair Realty Co. incorporated; J. Levy, 2120 Polk St.

Tex., Fort Worth—Fort Worth Cemetery Co., incorporated; C. A. Boaz, 2317 W. Magnolia St.

Tex., Galveston—E. A. Wood, 1230 Athletic Bldg., Dallas, and John Bredemus, 621 Milan Bldg., San Antonio, will design golf course and municipal recreation park at Offatts Bayou; will call for bids for construction work when proceeds from \$300,000 bonds issue available; I. H. Kempner, Chmn., Municipal Advertising Committee.

Tex., San Angelo—Park Bd., plans developing 30 acres for park purposes; Jenny & Jenny, Architects, Dallas.

Va., Cherrydale—Mount Vernon Land & Timber Corp., incorporated; I. S. Culver.

Va., Petersburg—Bath Springs Park Co., capital \$100,000, incorporated; Simon Seward, Union Trust Bldg.

Virginia—Southern Mineral Products Corp., Piney River, have retained E. S. Draper, Landscape Archt., 1516 E. Fourth St., Charlotte, N. C., to prepare complete plans for housing development; construction sewer, water, lights and street paving, storm drainage, etc., by Stone & Webster Engineering Corp., 49 Federal St., Boston, Mass.

### Lumber Enterprises

Mo., Springfield—Grant-Davis Lumber Co., capital \$50,000, incorporated; P. S. Grant, Cabool.

Tenn., Etowah—Paul M. Dodd Lumber Co., reported, will rebuild burned plant.

Tex., Longview—Shreveport Long Leaf Lumber Co., Inc., subsidiary of Frost Lumber Industries, Inc., Commercial Bank Bldg., both Shreveport, La., reported, acquired entire holdings of Lawrence Lumber Co. of Longview.

Va., School—Jones Planing Mill Corp. incorporated; J. M. Jones.

### Mining

Ky., Mexico—McMaster & Hunter Fluorspar Co. incorporated; R. C. McMaster, Ford Hunter.

N. C., Burnsville—J. A. Pollard, Pres., Yancy Granite Co., reported, leased cyanide deposits on 500 acre tract in Black Mountain to mining company headquarters, New York; lessee has finished construction of experimental mill at mine; as soon as details are arranged will begin construction of permanent mill; J. T. Tower, Mining Engr., 15 W. Thirty-eighth St., New York City, is supervising project; V. L. Mattson, New York City, is resident engineer; Mr. Mattson, reported, to have perfected a concentration process by which the cyanite will be produced; tract is said to contain 100,000,000 tons cyanite.

Tex., Fort Stockton—P. H. Regenold and associates, reported, developing lead and silver mine in Shafter area of Presidio County.

Tex., Hockley—Houston Salt Co., Esperson Bldg., Houston, reported, develop deposit of salt, 16,000 ft. thick, 4 miles wide and 6 miles long in Harris County 4 miles south of Hockley; work on temporary crusher and screening plant will be rushed to completion; plans for main plant 100x100 ft., 6 story with warehouse, 100x200 ft. being prepared; construction to begin in 6 months; plans also include installation of crusher plant at foot of main shaft; will expend \$150,000 for construction of employees home; Southern Pacific Co., Houston, filed application with Railroad Comsn., Austin, for permission to construct spur from main line to mines; C. J. Webre, Engr. in Charge.

Va., Clifton Forge—Iron Mountain Mining & Development Corp., O. J. Graham, Pres., 4700 Conn. Ave., N. W., Washington, D. C.; H. L. Whitesell, V. P., Iron Gate; developing 445 acres near Clifton Forge; install machinery for mining and mineral deposits; later plan installing jig for refining and separating.

Virginia—Southern Mineral Products Co., subsidiary of Vanadium Corporation of America, 120 Broadway, New York, let contract to Virginia Bridge & Iron Co., Roanoke, for small amount of struc. steel for addition to plant started last year; cost, with equipment, \$40,000.

Va., Richmond—John R. Helfert & Co., Inc., capital \$30,000, chartered; John B. Helfert, 1726 Atlamont Ave.

### Miscellaneous Construction

Ala., Birmingham—City, A. J. Hawkins, City Engr., let contract to Southern Construction Co., Inc., 615 S. 11th St., at \$10,326.

for rein. conc., retaining wall along north side of L. & N. tracks.

D. C., Washington—Following estimating on refuse incinerators, bids to be opened Mar. 4 at office of Dist. Commrs., Luther H. Reichelderfer, Dist. Engr., District Bldg.; English Construction Co., 1311 Eighth St., N. W.; Boyle-Robertson, Inc., Evans Bldg., and Chas. H. Tompkins, 1608 K St., N. W., all Washington; Superior Incinerator Co. of Texas, Wilson Bldg., Dallas, Tex.; Engstrom & Wynn, Inc., 1117 Chapline St., Wheeling, W. Va.; Hiler Engineering & Construction Co., Inc., 122 Livingston St., Brooklyn, N. Y.; Chain Grate Co., 1942 Forbes St., Pittsburgh, Pa.; Newport Contracting & Engineering Co., Lee Hall, Va.

D. C., Washington—Congress passed bill appropriating \$275,000 for extension of sea wall at Navy Yard.

Fla., Miami Beach—Virginia Key Development Co., F. H. Rand, Pres., Huntington Bldg., Miami, let contract to Clark Dredging Co., 357 S. W. North River Drive, Miami, for 100,000 cu. yd. excavation in canal and waterways within area of Virginia Beach; soon let contract for 16,000 lin. ft. sea wall of timber and pre-cast conc. slab.

Ga., Augusta—Augusta Levee Comsn., T. S. Gray, Chmn., adopted resolution asking city and county to widen levee an average of 20 ft., city stockade to Sand Bar Ferry bridge, costing about \$70,000.

Louisiana—Bd. of Commrs., Lake Borgne Basin Levee Dist., Fred Ahrens, Sec., Canal Bldg., New Orleans, opens bids Mar. 10 for back protection levee, St. Bernard Parish, to be known as Jackson Levee, 300,000 cu. yd.

La., New Orleans—Bd. of Commrs. of Orleans Levee Dist., 606 Common St., let contract to Fuller Construction Co., 8217 Palmetto St., at \$951,521, for sea wall around Shushan Airport.

La., New Orleans—U. S. Engr. Office, foot of Prytania St., has low bid from Alexandria Contracting Co., 907 Fourth St., Alexandria, at 24.44 cents per cu. yd. for 16,000 cu. yd. earthwork, Red River and Bayou des Glaises Levee and Drainage Dist., Second New Orleans Dist.

La., New Orleans—Bd. of Commrs. of Port of New Orleans, New Orleans Court Bldg., opens bids Feb. 18 for furnishing and erecting sheet metal work in shed at Mandeville St. Wharf.

La., New Orleans—Bd. of Commrs. of Port of New Orleans, New Courthouse Bldg., has low bid from A. M. Fromherz, Queen & Crescent Bldg., at \$15,353, for woodwork in erection of shed at Mandeville St. wharf, and for painting woodwork, struc. steel and rolling doors.

La., Tallulah—See Roads, Streets and Paving.

Md., Baltimore—Joseph F. Moreland, 5404 Harford Road, develop 41-acre cemetery, Taylor Ave.; plans complete for Dutch Colonial entrance consisting of 2 46-ft. stone towers, and public mausoleum; plans call for 6-ft. sidewalks, drainage and sprinkler system, grading, stone fence, etc.; all shrubbery by Roland Park Co., Joppa Road, Towson; total cost approx. \$600,000.

Miss., Vicksburg—U. S. Engr. Office, P. O. Box 667, opens bids Feb. 19 for approx. 363,500 cu. yd. earthwork, east bank Mississippi River, Subproject Item 10, 493-L mi. below Cairo, riverbed enlargement, average height 28 ft.

Mo., Chamols—U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, let contract to Bilhorn, Bower & Peters, Inc., Rwy. Exch. Bldg., St. Louis, at \$194,206, for 6585 ft. dikes, Chamols Bend, Missouri River.

Tex., Austin—City, Adam R. Johnson, City Mgr., opens bids Feb. 18 for Cont. 33, conc. spillway in new channel of Bouldin Creek, 7500 lb. rein. steel; H. R. F. Helland, Consit. Engr.; C. G. Levander, Bridge Engr.

Va., Great Bridge—U. S. Engr. Office, Norfolk, has low bid from Merritt-Chapman & Scott Corp., 17 Battery Place, New York, at \$307,703 and \$261,403 for alternate types of cement construction in new tidal locks, Albemarle and Chesapeake Canal; has low bid from Roanoke Iron & Bridge Works, Roanoke, at \$34,700, for gates for locks.

Va., Norfolk—Ch., Bureau of Yards and Docks, Navy Dept., Washington, opens bids Mar. 4 for refacing pier No. 7 and constructing quarters for tugs' crews at naval operating base, Hampton Roads.

### Miscellaneous Enterprises

Ark., Fort Smith—City votes April 7 on \$125,000 bonds for fire equipment and improvements.

D. C., Washington—Dept. of Commerce, Bureau of Standards, W. I. Deming, Archt., 808 17th St., N. W., reported, have plans ready for bids in about 30 days for hydraulic laboratory; 2 story, 50x400 ft., brick and stone, rein. conc., steel, metal windows, steel sash, slag roof; cost about \$360,000.

Fla., Fort Myers—Tropical Shades Mfg. Co., incorporated; J. E. Gay, B. B. Hawkins.

Fla., Jacksonville—Slade-McLemore Corp., incorporated; T. B. Slade, Jr., 1839 Laura St.; stucco products.

Fla., Miami—Nystrand Roofing Co., Inc., chartered; O. A. Nystrand, 1911 N. W. Flagler Terrace.

Fla., Miami—Better Bread Co., Inc., chartered; S. R. Bandy, 126 N. W. Eighth Ave.

Fla., Pompano—Seminole Publishing Co. incorporated; H. S. Jones, W. E. Sampson.

Fla., Pompano—Pompano News, Inc., incorporated; C. H. Cates, H. P. Bass.

Fla., Tampa—White Rose Dairy Co., capital \$15,000, incorporated; Luigi Massaro, 11th Ave. and 40th St.

Fla., Wewahatcha—Southern Pearl Shell Co., reported, plans establishment of pearl button plant from fresh water mussels taken from bottom of Dead Lake; cost \$75,000.

Ga., Atlanta—Volunteer State Life Insurance Co., Chattanooga, Tenn., reported, negotiating for purchase of Southern States Life Insurance Co.

Ga., Brunswick—L. P. Maggioni & Co., 401 W. Bay St., Savannah, reported, acquired prawn factory of Ocean City Packing Co.

Ky., Louisville—Operating merger, reported, completed by formation of Ewing-Von Allman Dairy Co., from D. H. Ewing's Sons, Inc., Third and Kentucky Sts., and Gray Von-Allman Sanitary Milk Co., Inc., 1143 Garvin Place.

Ky., Louisville—Daubert Electric Co., capital \$20,000, incorporated; Chas. L. W. Daubert, 314 Pleasantview St.

La., Baton Rouge—Louisiana Creamery, Inc., J. M. Caldwell, Pres., L. S. U. Campus, reported, receives bids Feb. 16 for creamery, Plank Rd.; brick and rein. conc., 2 story and basement; Weiss, Dreyfous & Seiforth, Archts., Maison Blanche Bldg., New Orleans.

La., New Orleans—Louisiana Coca Cola Bottling Co., Ltd., Canal and Robertson Sts., reported, let contract to J. C. D'Armas, 8002 Hickory St., for garage and storage building, 1600 Iberville St.; cost about \$19,000.

Md., Baltimore—Leldig Candy Co., Inc., 1748 N. Gay St., chartered; Wm. B. Leldig, Gustav C. W. Leldig.

Mo., Forest Green—Charlton Fur and Frog Farm, capital \$50,000, incorporated; Carl F. Sanders, Forest Green; Wm. L. Hannaca, 5042 Winthrop, Chicago, Ill.

Mo., Kansas City—Star Boat & Motor Co., capital \$30,000, incorporated; Nathan Young, 6029 Wornall Road.

Mo., Kansas City—A. J. E. Engineering Co. incorporated; A. I. Beach, Security Bldg.

Mo., St. Louis—Phillips-Buchanan Towing Corp., capital \$50,000, incorporated; Frank W. Phillips, 1951 Withnell St.; conduct towing business on Mississippi River and tributary waters.

Mo., St. Louis—Sunkist Food Products Co., incorporated; Wm. J. Hogan, 4226 Moffit St.

Mo., St. Louis—Kingshighway Memorial Undertaking Co., capital \$20,000, incorporated; Walter K. Voss, 1572-A Clarence Ave.

Mo., St. Louis—Lind Baking Co., capital \$225,000, incorporated; Oscar R. Witte, Wainwright Bldg.

Mo., St. Louis—National Cap Mfg. Co., incorporated; A. H. Zeldler, 3127a Gravoys St.

Mo., St. Louis—Baker Bros., Inc., incorporated; Nathan Baker, 5346 Wells Ave.

S. C., Columbia—Auto Fry Stop Co. incorporated; Gaines W. Harrison, 4505 Main St.

North Carolina—Dr. Pepper Beverage Co., 429 Second St., Dallas, Tex., C. Dan Jenkins, Field Repr., reported, plans expending \$500,000 on beverage manufacturing and distributing plants, Asheville, Charlotte, Winston-Salem, Durham and Wilmington; machinery for plant at Kibler Bldg., Asheville, has been ordered; plant will cost \$75,000; other plants to open about March 5.

N. C., Greensboro—Arnold Stone Co. of North Carolina, Inc., recently organized manufactures of architectural cast stone and conc. specialties, have established headquarters at 916 Warren St., Greensboro; M. A. Arnold is Pres., and L. L. Krippner, is V. P. and Sec.

N. C., Rocky Mount—W. S. Wilkinson, Inc., capital \$50,000, chartered; W. S. Wilkinson, 126 N. Main St.



N. C. Rutherfordton—Doncaster Collar & Shirt Co., Inc., capital \$100,000, incorporated; S. B. Tanner and associates; has building Main St.; manufacture shirts.

Okla., Oklahoma City—Southwest Utility Ice Co., Petroleum Bldg., reported, expend \$10,000 for remodeling ice cream plant.

Okla., Oklahoma City—Long Life Roofing Co., Harley Davis, 417 N. Robinson St., reported, construct \$15,000 plant in Market Square addition.

Okla., Tulsa—City, Earl Logan, City Auditor, reported, plans expending \$275,000 for central alarm system; 2 story, rein. conc. and brick; Smith & Senter, Archts., Phil-tower Bldg., Tulsa.

S. C., Charleston—Palmetto Floral Co., capital \$20,000, incorporated; Homer D. Styles, Lawrence A. Kelly.

S. C., Greenville—Dr. W. W. Long, of Extension Service, Clemson College, making survey for establishment of creamery.

N. C., Hamlet—Butters Ice Cream Co., plans erection of warehouse.

Okla., Okmulgee—J. L. Crocker, 3011 Main St., Joplin, Mo., considering establishment of meat and sausage packing plant.

Tenn., Jackson—Hauser Tent & Awning Corp., incorporated; C. R. McClure, H. L. Hauser.

Tex., Dalhart—Loyce Caldwell, McLean, purchased Dalhart Baking Co.

Tex., Dallas—Cedric Burgher Construction Co., Republic Bank Bldg., increased capital to \$15,000.

Tex., El Campo—Svoboda Publishing Co., incorporated; Gus Miller, L. J. Sulak.

Tex., Fort Worth—Friderichsen Wall Tile Co., capital \$100,000, incorporated; Robert Sansom, W. T. Waggoner Bldg.

Tex., Fort Worth—Dunn-Locke Mfg. Co., 1228 W. Daggett St., erect brick veneer factory building, E. 21st St.; 1 story and basement, 102x52 ft. with 3-story tower, 18x35 ft.; cost \$11,000; Kelly Poff, 2315 Hemphill St., Archt. and Builder.

Tex., Longview—Texas Milk Products Co., Marshall, D. B. Short, Mgr., acquired W. J. Long dairy on Longview-Marshall Rd.; establish \$20,000 pasteurized plant.

Tex., San Antonio—Jacob Estrada, 2602 W. Commerce St., reported, construct fireproof bakery S. Laredo St. between Dolorosa and Commerce Sts. as addition to El Fenix Bakery on Santa Rosa Ave.; Leo M. J. Dielman, Archt., 306 E. Commerce St. 1-22

Tex., San Antonio—Deason Corp., capital \$30,000, incorporated; C. Deason, 147 Glenwood St.

Tex., Temple—Day-Nite Sign Service, incorporated; J. C. Harrison, H. H. Harrison.

Va., Alexandria—Aresto Co., Union Ave., Woodberry Ave., Baltimore, d., will have special meeting Feb. 18th at 1600 Union Ave. to consider and to act upon agreement entered into between directors of Aresto Co. and directors of Emerson Pump and Valve Corp., Alexandria, whereby merger and consolidation is sought to be effected. 2-5

Va., Gloucester—Beaver Dam Marl Corp., Eugene M. Nourse, Pres., Russellville, Ky., plans improvements to plant, daily capacity 50 tons poultry feed. 2-5

Va., Dumfries—Berger's Hatchery & Poultry Farms, Inc., capital \$50,000, chartered; Rudolph O. Berger.

Va., Winchester—H. J. Heintz, 1062 Progress St., Pittsburgh, Pa., reported, plans 1 story, brick, conc. and steel bottling plant; cost \$74,000.

W. Va., Weston—Cataract-Sharp Glass Co., in Homewood, reported, plans adding 60 additional frames in cutting dept.

W. Va., Weston—West Virginia Glass Specialties Co., reported, plans constructing 2 additional shops.

## Motor Bus Lines and Terminals

Arkansas—Central Greyhound Corp. Memphis, Tenn., will have hearing Feb. 18 before Arkansas Railroad Comsn., Little Rock, for permits to operate motor buses over several routes in Arkansas; company recently acquired holdings of Pickwick-Greyhound Lines.

Ark., Fort Smith—Fort Smith-Little Rock Motor Express Co., 216 S. Sixth St., incorporated; J. L. McBrayer, C. W. Knitt; operate freight line, Fort Smith and Little Rock.

Mo., St. Louis—Weilbacher Motor Freight Lines, capital \$50,000, incorporated; Leo A. Weilbacher, Columbia, Ill.; Elmer Weilbacher, Majestic Hotel, St. Louis.

N. C., Burlington—Boland Motor Lines, Inc., chartered; S. R. Boland, Burlington; Wm. Roy Lacey, Mount Vernon, N. Y.

N. C., Charlotte—Bluebird Taxi Co., capi-

tal \$40,000, incorporated; Thos. D. Goode, Johnston Bldg.

Okla., Tulsa—Tulsa Opera Co., Charles B. Peters and others, reported, erect \$1,500,000 union bus terminal, office and hotel building. See Buildings Proposed—Hotels and Apartments.

Texas—Jack Ardis, Sulphur Springs, granted Class B truck line certificate by Railroad Comsn., Austin; Barnett Bros., Hamilton, granted intrastate certificate for truck line Hamilton to Gatesville, via Evans; Mrs. J. H. Shelman, 1901 S. Hackberry St., San Antonio, granted temporary intrastate certificate for operating truck line Houston to Victoria via Schulenberg, Hallettsville, Sweet Home and Cuero; approved sale to Edgar Spenrath of permit to operate truck line from Comfort to San Antonio.

## Railways

Florida—Atlantic Coast Line R. R., J. E. Willoughby, Ch. Engr., Wilmington, reported, expend \$2,500,000 in Florida in 1931 for improvements and maintenance of present lines; install modern safety devices, strengthen road beds, lay heavier rails, eliminate grade crossings and beautify rights of way. (See Wilmington, N. C., 2-5.)

La., Shreveport—Louisiana & Arkansas Ry. Co., H. C. Couch, Pres., inquiring for two or three locomotives of 2-10-4 type.

Texas—Atchison, Topeka & Santa Fe Ry., M. J. Collins, Gen. Pur. Agt., Chicago, Ill., 14 cars, 12 75 and 80-ft. epp-h.p. gasoline-electric cars from Pullman Car & Mfg. Corp., Chicago, Ill., and 2 80-ft., 550-h.p. combination baggage and mail cars from J. G. Brill Co., Philadelphia, Pa.

Virginia—Virginian Ry. Co., Chas. H. Hix, Pres., Norfolk, advises regarding expansion and improvements in 1931, plans completing order for revision of freight cars to extent of \$678,351; complete Kanawha River bridge connection with New York Central, \$245,000; complete Guayandot River line, 12 mi., \$3,834,395; improvements to buildings, road, etc., \$128,100, and usual maintenance expenses of ballast and 20 mi. 130-lb. rail.

Va., Norfolk—Seaboard Air Line Ry. Co., W. M. Portlock, Pur. Agt., ordered 5000 tons rail for immediate delivery from Tennessee Coal, Iron & Railroad Co., Birmingham, Ala., involving approx. \$200,000.

## Railway Shops and Terminals

Mo., Kansas City—Missouri Pacific R. R. Co., E. A. Hadley, Ch. Engr., St. Louis, let contract to List & Weatherly Construction Co., Rwy. Exch. Bldg., Kansas City, for foundation work for 2,500,000-bu. grain elevator; T. M. Tucker, St. Louis, Archt. for railroad. 1-1

## Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

### Proposed Construction

Ark., Fort Smith—City plans expending \$68,000 to \$70,000 for street paving. See Financial News Columns.

D. C., Washington—District Highway Dept., H. C. Whitehurst, Ch. Engr., opens bids Mar. 22 for roads, costing approx. \$1,500,000, first of 3 groups; total cost of work encompassing 15 contracts to cost approx. \$3,000,000; opens bids April 20 for 4 repair jobs costing \$500,000.

GEORGIA—State Highway Bd., J. W. Barnett, Chmn., Atlanta, opens bids Feb. 17 for 8 roads (paving unless otherwise designated) and 8 bridges in following counties:

Hart—4.28 mi., Hartwell-Anderson road, east end of FAP 448 A&B to Georgia-South Carolina state line, FAP 448-C, 2.981 cu. yd. excavation, 50,222 sq. yd. conc. paving, 10,680 lin. ft. raised edge curb;

Morgan—7.6 mi. grading, 2 bridges, Madison-Watkinsville road, Madison-Oconee County line, FAP 444-B; Cont. 1, 170,481 cu. yd. excavation, 29,400 lb. rein. steel, 16,817 cu. yd. selected material surfacing; Cont. 2, 1185 cu. yd. conc., 207,100 lb. rein. steel, 3616 lin. ft. untreated foundation piling, 16,137 sq. yd. conc. paving, 1228 lin. ft. hand rail;

Thomas—5.5 mi. grading, 3 bridges, Thomasville-Cairo road, Thomasville-Grady County line, FAP 474-A; Cont. 1, 69,461 cu. yd. excavation, 29,277 lb. rein. steel; Cont. 2, 2 bridges, 51,800 lb. rein. steel, 144,400 lb. struc. steel;

Oconee-Morgan—11.4 mi. grading, bridge, Madison-Watkinsville road, near Watkinsville-Morgan County line, FAP 444-A; Cont. 1, 137,889 cu. yd. excavation, 6234 lb. rein.

steel, 25,804 cu. yd. selected material surfacing; Cont. 2, 21,270 cu. yd. conc., 141,000 lb. rein. steel;

Habersham—8.9 mi., Cornelia-Toccoa road, Cornelia-near Habersham-Stephens County line, FAP 469, 58,147 cu. yd. excavation, 17,304 lb. rein. steel, 70,356 cu. yd. hydraulic settlement fills, 19,194 lin. ft. guardrail, 106,000 sq. yd. conc. paving;

Bulloch—9.7 mi., Statesboro-Savannah road, FAP 197-A Reop. & 197-B & 229 Reop.; Part 1, 78,540 cu. yd. excavation, 4245 lb. rein. steel, 114,933 sq. yd. conc. paving;

Tift—bridge, Tifton-Sylvester road, SAP 209, 21,000 lb. rein. steel;

Wayne-Long—11.0 mi. sand clay, Jesup-Ludowici road, Jesup-Ludowici, SAP 907 and 907-F, 9000 cu. yd. excavation, 28,200 cu. yd. surfacing, 300 tons rip-rap at bridge 3;

Cobb—8.2 mi., Marietta-Canton road, Marietta-Cherokee County line, FAP 464, 86,603 cu. yd. conc. paving, 29,454 lin. ft. raised edge curb, 8856 cu. yd. excavation;

Newton—bridge, Covington-Madison road, FAP 153-D, 45,000 lb. rein. steel, 1080 lin. ft. untreated foundation piling.

La., Alexandria—City, Mayor and City Council, opens bids Feb. 17 for paving 3 streets.

La., Lake Providence—City, Mayor and Bd. of Aldermen, S. B. Kennedy, City Clk., opens bids Feb. 17 for paving Lake St.; J. M. Fourmy, Engr., Hammond.

La., Pineville—City, Mayor and Bd. of Aldermen, opens bids Feb. 17 for paving 3 streets with rein. conc.

La., Tallulah—Madison Parish Police Jury, P. O. Benjamin, Sec. and Engr. in charge, opens bids Mar. 4 for 2 roads and bridge project: Lum-Algaden gravel surfaced road, 7 mi.; Lick Bayou-Indian Bayou earth embankment, approx. 18,000 cu. yd.; Lick Bayou and Indian Bayou steel bridges.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids Feb. 17 for 3 roads in following counties:

Anne Arundel—2.13 mi. conc., Annapolis Blvd., Furnace Creek-Marley Creek, Cont. AA-112-72, FAP 229;

Carroll—1.73 mi. conc., Taneytown-Pennsylvania State Line road, end of Cont. CI-94-54, FAP 200B;

Prince George's—1.07 mi. penetration macad., Hunt's Corner-Gordon's Corner road, end of Cont. P-123 to Gordon's Corner, Cont. P-154-32.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, has low bids for 2 roads in following counties:

St. Mary's—1.44 mi. gravel, Oakville-Sand-gates road, Southern Maryland Construction Co., 20 E. Lexington St., Baltimore, \$12,477;

Worcester—1.13 mi. conc., Berlin-Liberty-town road, P. D. Phillips & Bro., Salisbury, \$18,968. 1-29

Md., Baltimore—City, Nathan L. Smith, Highways Engr., has low bids for street and road work; Grading Cont. 566, near Pretty-boy Dam, P. Reddington & Sons, 2 E. Lexington St., \$37,475; Sheet Asphalt Cont. 575, American Paving & Contracting Co., 2525 Montebello Ave., \$36,270; Conc. Cont. 576, Arundel Construction Co., 910 Trinity St., \$20,497. 1-29

Md., Baltimore—City, Bd. of Awards, Office of City Register, City Hall, opens bids Feb. 18 for Sheet Asphalt Cont. 579, 6650 sq. yd., and Cement Conc. Cont. 580, 7550 sq. yd.

Md., Upper Marlboro—Prince Georges County Commrs., James S. Heal, Clk., advises \$190,000 for road construction in county during 1931 is to be expended under direct supervision of State's Road Comsn., L. H. Steuart, Sec., Baltimore. 2-5

MISSISSIPPI—State Highway Comsn., C. M. Williamson, Director, Jackson, opens bids Feb. 20 for 7 roads, and bridge in following counties:

Monroe-Lowndes—0.925 mi., Aberdeen-Columbus road, FAP 40-Reop., 60,602 cu. yd. borrow excavation, 1837 lb. rein. steel; bridge items: 117,950 lb. rein. steel, 34,700 lb. struc. steel, 340 f. b. m. creosoted lumber, 3786 lin. ft. conc. piling;

Newton—9.095 mi., Newton Lake road, FAP197-A, 14,218 cu. yd. subgrade treatment material, alternates on 106,136 sq. yd. cement conc., 100,829 sq. yd. sheet asphalt, rock asphalt on asphaltic conc. surface course and 106,136 sq. yd. cement conc. base course, plain or 106,136 sq. yd. sheet asphalt, rock asphalt or asphaltic conc. surface course and 106,136 sq. yd. asphaltic conc. base course;

Scott—8.043 mi., Forest-Lake road, FAP 197-B, 5660 cu. yd. excavation, 18,520 cu. yd. subgrade treatment material; alternates on 94,371 sq. yd. cement conc.; 89,653 sq. yd. sheet asphalt, rock asphalt or asphaltic conc. surface and 94,371 sq. yd. cement conc. base course, plain, or 94,371 sq. yd. sheet asphalt, rock asphalt or asphaltic conc. surface course, 94,371 sq. yd. asphaltic conc. base course and 27,525 cu. yd. gravel sub-base course;

**Itawamba**—2,694 mi., Tupelo-Fulton road, FAP 1-Reop., 168,727 cu. yd. excavation, 20-1337 lb. rein. steel; bridge items: 119,653 lb. rein. steel, 335,890 lb. struc. steel, 3922 lin. ft. conc. piling, 1558 lin. ft. hand railing, 6365 f. b. m. creosoted lumber, 1089 lin. ft. creosoted piling;

**Grenada**—1,421 mi., Grenada-Memphis road, FAP 209-A revised, 45,171 cu. yd. borrow excavation; bridge items: 127,960 lb. rein. steel, 2688 lin. ft. foundation piling;

**Warren**—8.49 mi., Edwards-Vicksburg road, FAP 184-F, 399,308 cu. yd. excavation, 285,850 lb. rein. steel, 7200 f. b. m. creosote timber flumes, 10,700 lin. ft. paved gutter; overhead bridge (on cross roads), 9555 lb. struc. steel, 14,401 f. b. m. creosoted lumber; 1,429 mi. paving, Vicksburg-Natchez road, FAP 201-A, alternate on 17,363 sq. yd. cement conc. plain; 16,523 sq. yd. asphalt, rock asphalt or asphaltic conc. surface course and 17,363 sq. yd. cement base conc., plain, or 17,363 sq. yd. sheet asphalt, rock asphalt or asphaltic conc. surface course, 17,363 sq. yd. asphaltic conc. base course and 3588 cu. yd. gravel sub-base course.

**Mo., Troy**—City plans rein. conc. paving several streets; Russell & Axon, Engrs., 6200 Easton Ave., St. Louis, and McDaniel Bldg., Springfield.

**OKLAHOMA**—State Highway Comsn., Ed McDonald, Sec., has low bids totaling over \$660,000 for 11 roads (grading, draining, unless otherwise designated) and 11 bridges in following counties:

**Comanche**—101 mi. paving and bridge, Ledford & Way, Walters, \$769;

**Roger Mills**—11.519 mi., Richards & Moor-man, Box 565, Stroud, \$28,488; bridge, Roberts & Fisher, Norman, \$22,989;

**Grant**—0.279 mi., Manley & Stone, \$19,062; bridge, R. R. Tway, 237 E. 15th St., Oklahoma City, \$52,444;

**Craig**—133.808 mi., J. H. Maxwell, 5 N. Boston St., Tulsa, \$66,412; bridge, H. L. Cannady & Co., 1116 S. Lewis St., Tulsa;

**Kiowa-Tillman**—4.3 mi., Lawson & Co., El Reno, \$19,484; 13 mi., J. S. Ward & Sons, Sulphur, \$83,992; bridge, Herman Mercedes, \$22,925;

**Lincoln**—13.8 mi., J. J. Harrison, Holdenville, \$87,453; bridge, H. L. Cannady & Co., \$50,399;

**Kingfisher**—2.675 mi., \$8080; bridge, \$18,904, Asplund Sons Co., Masonic Temple, Enid;

**Cotton**—8.55 mi., T. L. James, Ruston, La., \$37,562;

**Woods**—5.57 mi., bridge, Fred Woelke, \$25,815;

**Tulsa**—bridge, H. L. Cannady & Co., \$11,285.

**S. C., Parris Island**—Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C., opens bids Feb. 25 for roads at marine barracks.

**TENNESSEE**—State Dept. of Highways and Public Works, T. E. McEwen, Engr., Nashville, opens bids Feb. 27 for 5 roads and bridge in following counties:

**Rhea-Meigs**—\$500,000 bridge over Tennessee River between Dayton and Decatur;

**Dickson**—7.905 mi. paving, Highway 1, Dickson-Humphreys County line;

**Humphreys**—5.265 mi. paving, from Dickson-Humphreys line;

**Lake-Obion**—11.58 mi. paving, Tiptonville-Dyer County line;

**Rhea**—8.87 mi. grading, draining, Highway 29;

**Washington**—5.517 mi. grading, draining, Highway 34, Jonesboro-Johnson City.

**TEXAS**—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, opens bids Feb. 27 for 23 roads (bituminous unless otherwise designated) in following counties:

**Denton**—6.86 mi., Highway 10, Clear Creek to Aubrey, Job M-18-C-2, 61,000 sq. yd.; 6.85 mi., Highway 39, Collin County line west, M-18-C-2, 72,400 sq. yd.;

**Fayette**—6.95 mi., Highway 73, 7 mi. north of LaGrange to Fayetteville, M-13-C-3;

**Gonzales**—13.617 mi. rock asphalt, Highway 81, Wilson County line to 5 mi. east of Smiley, M-13-P-3, 135,811 sq. yd.;

**Baylor**—48 mi. crushed stone base with bitum. surface, Highway 23, Miller Creek fill, M-3-R, 1918 cu. yd. crusher run broken stone base course, 12,268 cu. yd. material, 6650 M gal. asphalt;

**Harrison**—7.10 mi., Highway 8, Marshall to Rosenborough Springs road, M-10-M-4, 74,976 sq. yd.;

**Hopkins**—16.0 mi. double bitum. surface treatment, Highway 11, Sulphur Springs-Hunt County line, Job M-1-C-5;

**Fannin**—6.55 mi. double bitum. surface treatment, Highway 42, 4.5 mi. north of Leonard to Hunt County line, M-1-D-5, 61,482 sq. yd.; 9.35 mi. double bitum. surface treatment, Highway 78, 1 mi. east of Leonard to Collin County line, M-1-E-5, 87,765 sq. yd.;

**Culberson-Hudspeth**—4.264 mi. in Culberson, M-6-E-3; 52,327 7mi. in Hudspeth, M-6-F-3; 56,591 mi., Highway 130, Highway 54, Culberson County west, 597,000 sq. yd. single bitum.;

**Mason**—7.697 mi. double bitum. surface treatment, Highway 9, 6 mi. south of Mason South, M-7-N-2, 81,280 sq. yd.;

**Kimble**—6.25 mi., Highway 27, Roosevelt east, 66,000 sq. yd., Job M-7-N-2;

**Cherokee**—12.0 mi., Highway 40, Jacksonville-Oakland, 112,640 sq. yd., M-10-L-5;

**Wood**—10.203 mi., Highway 37, Smith County line north, 111,321 sq. yd., M-10-H-5;

**Panola**—8.50 mi., Highway 64, Rusk County line east, 69,760 sq. yd.;

**Harrison**—7.10 mi., Highway 15, Gregg County line to Hallsville, Job M-10-F-5, 83,306 sq. yd.;

**Nacogdoches-Angelina**—17.370 mi., Highway 335, Nacogdoches to Lufkin, M-11-U-3;

**Cherokee**—12.0 mi., Highway 21, Nacogdoches County line west, M-10-I-5, 126,720 sq. yd.;

**Trinity**—16.30 mi., Highway 19, Houston County line to Walker County line, 153,847 sq. yd., M-11-W-3;

**Fayette**—9.73 mi. 1/2-in. limestone rock asphalt surfacing, Highway 72, 7 mi. south of Lagrange to Schulenburg, M-13-N-3, 108,512 sq. yd.; 15.60 mi. 1/4-in. limestone rock asphalt, Highway 3, 1 mi. east of Platonita to Colorado County line, M-13-M-3, 146,432 sq. yd.;

**Lamar**—2.47 mi., Highway 39, south from Red River, N-1-G-4, 26,132 sq. yd.;

**Denton**—2.47 mi., Highway 10, Denton to Clear Creek, M-18-D-2, 39,800 sq. yd.

**Tennessee**—State Dept. of Highways and Public Works, R. H. Baker, Commr., Nashville, opens bids Feb. 20 for 8.790 mi. paving, State Highway 29, Sale Creek to Dayton, 10,300 cu. yd. excavation, 103,145 sq. yd. cement conc. paving.

**TEXAS**—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, probably call bids soon for 7 roads and bridge projects:

**Brazoria**—7.416 conc. paving, Highway 58, Matagorda County line to San Bernardino River, FAP 442-B, Unit 2;

**Victoria**—16.904 mi. grading, draining, Highway 128, Refugio County line to Victoria, SAP 840-E, Unit 1;

**Caldwell**—rein. conc. bridges over San Marcos River Relief, 800 ft., \$75,000, FAP Reop.;

**Grayson**—16.048 mi. rein. conc. paving, Highway 5, Sherman west to Whitesboro, FAP 549-B and C, Unit 2;

**Lubbock**—10.957 mi. rein. conc. paving, Highway 9, Lubbock to Hale County line, FAP 546-A, Unit 2;

**Crosby**—6.044 mi. grading, draining, Highway 24, west line of Road Dist. 1 to 1/2 mi. west of Cap Rock;

**Randall**—15.311 mi. grading, draining, Highway 33, Canyon to Deaf Smith County line, FAP 174-A, reopened;

**Freestone**—17.396 mi. rein. conc. paving, Highway 32, Fairfield to Leon County line, FAP 483-B, Unit 2.

**TEXAS**—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, plans 9 roads in following counties:

**Cooke**—11.304 mi. grading, draining, Highway 5, Gainesville-Grayson County line, FAP 549-D, Unit 1;

**Liberty**—2.268 mi. grading, draining, Highway 35 through Cleveland, FAP 426-A;

**Cherokee**—6.612 mi., Highway 40, Jacksonville Road Dist.-Rusk, FAP 566-B, Unit 1, \$65,000;

**Waller**—9.853 mi. rein. conc. paving, Highway 6, Hempstead-Harris County line, SAP 778-C & D, Unit 2;

**Reeves**—17.257 mi. grading, draining, Highway 17, Pecos to Amo, FAP 607-A, Unit 1, \$85,000;

**Fisher**—16.467 mi. grading, draining, Highway 85, Roby-Scurry County line, SAP 917-C, Unit 1;

**Hood**—1036-ft. steel, rein. conc. bridge over Colorado River, Highway 10, FAP 92-Reop., \$100,000;

**Kendall**—5 mi. caliche, Highway, 6.7 mi. south of Gillespie County line to 11.7 mi. south of Gillespie County line, \$5500;

**Dickens**—9.855 mi., bitum. on gravel base, Highway 18, Dickens to Spur, S. A. 834-A, Unit 2, \$35,000.

**Tex., Beaumont**—City Comsn. Council opens bids Feb. 17 on 7 street projects.

**Tex., Dallas**—City, J. P. Welch, City Sec., opens bids Feb. 17 for street improvements with vertical fiber brick, asphaltic conc., Uvalde rock asphalt, limestone rock asphalt, Warrenite bitulithic, Portland cement conc., asphalt macad.; 36,915 sq. yd. paving, 6064 sq. ft. valley gutter, 19,255 lin. ft. combination curb and gutter, 15,500 cu. yd. excavation, 719 lin. ft. 10, 18, 24, 30 and 48-in. storm sewer.

**Tex., Fort Worth**—City Council voted to widen eastern unit of Rosedale traffic artery.

**Tex., Mineola**—City plans 16 blocks paving.

**Virginia**—National Park Service, Interior Dept., Washington, will allocate \$500,000 to build roads and trails in National Parks and monuments; half to be used for road through Shenandoah National Park, Panorama to Skyland, thence to intersect with Rapidan Valley road; remainder to be expended in beginning Colonial National Monument Parkway, Yorktown to Williamsburg along York River.

**VIRGINIA**—State Dept. of Highways, C. S. Mullan, Ch. Engr., Richmond, opens bids Feb. 24 for road and 2 bridges in following counties:

**Nansemond**—279-ft. bridge over Nansemond River, Reid's Ferry, Route 10;

**Rockbridge**—7.4 mi. gravel, Route 14, Balcony Falls-Buena Vista;

**Spotsylvania**—127-ft. bridge over Po River, 51, 13 mi. from Fredericksburg.

**Va., Quantico**—Ch., Bureau of Yards and Docks, Navy Dept., Washington, D. C., opens bids Feb. 25 for roads at marine barracks.

**Va., Yorktown**—U. S. Dept. of Interior, National Park Service, Washington, Oliver G. Taylor, Yorktown, Engr. in charge, expend approx. \$250,000 immediately on road, Yorktown to Williamsburg.

#### Contracts Awarded

**Fla., Clearwater**—Pinellas County Commrs. let contract to Davis & Cobb, Tampa, at \$18,476 for widening and repaving Eagle St., 18 to 27 ft., Tarpon Springs.

**GEORGIA**—State Highway Bd., J. W. Barnett, Chmn., Atlanta, let contracts for 16 roads and 19 bridges in following counties, involving \$2,057,853:

**Grady**—7.647 mi. conc., Thomas County line-Florida state line, H. E. Wolfe Construction Co., First Natl. Bank Bldg., St. Augustine, Fla., \$165,634;

**Douglas**—11.56 mi. grading, Douglasville-Villa Rica, Davis Construction Co., Rhodes-Haverty Bldg., Atlanta, \$67,993;

**Gwinnett-Barrow**—20,595 ft. guard rail, Winder-Lawrenceville, Atlantic-Athene Highway, Clarke Construction Co., Louisville, Ga., \$7723;

**Cobb-Douglas**—7.139 mi. conc., Austell-Douglasville, Davis Construction Co., \$133,661;

**Jeff Davis**—5 mi. grading, Hazelhurst-Appling County line, Coffee Construction Co., Eastman, \$38,880;

**Pulaski**—10 mi. limerock base, surface treated, bridge, Hawkinsville-Dodge County line, Campbell Contracting Co., 1312 10th Ave., Columbus, \$190,484;

**Pike**—8.7 mi. grading, Zebulon-Upson County line, Nichols Contracting Co., 1281 Le France St., N. E., Atlanta, \$45,869;

**Terrell**—11 mi. limerock base, surface treated, Dawson-Webster County line, Joseph R. Cochran, Atlanta, \$183,747;

**Brooks**—12.2 mi. grading, Quitman-Colquitt County line, Langston Construction Co., Pinecastle Road, Orlando, Fla., \$63,111; 8 bridges, Ed Pettus, Montgomery, Ala., \$72,027;

**Hall**—3 bridges, Gainesville south on Route 11, C. G. Kershaw Co., Woodward Bldg., Birmingham, Ala., \$72,027;

**Madison**—bridge, Athens-Danielsville, D. B. Scott & Co., Decatur, \$19,774;

**Dodge**—7.82 mi. limerock base, surface treatment, 2 bridges, Eastman-Dodge-Pulaski County line, Campbell Construction Co., Columbus, \$14,115;

**Jeff Davis-Appling**—14.7 mi. limerock surface treated, Baxley-Jeff Davis County line, Sam E. Finley, 292 North Ave., N. W., Atlanta, \$214,535;

**McDuffie-Columbia**—12.5 mi. conc., 2 bridges, Thomson-Harlem, Davis Construction Co., \$292,436;

**Emanuel**—8.5 mi. conc., Graymont-Bullock County line, Espy Paving & Construction Co., 2809 Bull St., Savannah, \$175,547;

**Banks**—bridge, Commerce-Carnesville, R. H. Holz, Atlanta, \$19,785;

**Morgan**—2.3 mi. top soil, Madison-Carlton, Nichols Construction Co., \$21,712; bridge, E. M. Williams, Monroe, \$6727.

**Columbia-Richmond**—6.0 mi. paving, between Harlem and Richmond County line, Davis Construction Co., \$133,661.

**TENNESSEE**—State Dept. of Highways & Public Works, R. H. Baker, Commr., Nashville, let contracts for 6 roads and 10 bridges in following counties:

**Lake-Obion**—Proj. 71, Frazier-Davis Construction Co., Arcade Bldg., St. Louis, Mo., \$51,476;

**Lawrence**—7.326 mi. paving, State Highway 6, 246-A, Wm. F. Bowe, Jr., 540 Reynolds Augusta, Ga., \$211,999;

**Folk**—2 bridges, State Highway 74, 247-A, Albert Lyons, Rogersville, \$26,086;



Sevier—4.86 mi. grading, draining, State Highway 35, 3 conc. bridges, 248-A, Chandler Bros., Virgilina, Va., \$135,551; 3.72 mi. grading, draining, State Highway 35, 3 conc. bridges, 248-B, Chandler Bros., \$107,2533;

Henderson—5.908 mi. grading, draining, State Highway 22, 4 bridges, 251-A, McDade & McDade, Lexington, Tenn., \$61,458;

Davidson—8.43 mi. grading, draining, 557-A, ward deferred. 5-2

Tex., Beaumont—City Comsn. Council let contract to Broussard Warfield, at \$108,858 for 7 street paving projects. 1-29

La., Shreveport—Constructing Quartermaster for Third Attack Wing let contract to R. B. Skannal, 916 Kirby Pl., for grading and repairing temporary roads on Barksdale Field.

Mo., Troy—City let contract to Davis Construction Co., Boonville, for paving Main St.; Russell & Axton, Engrs., 6200 Easton Ave., St. Louis, and 408 McDaniel Bldg., Springfield. 12-25-30

Mo., University City, St. Louis—City, Bd. of Aldermen, E. L. Bruns, Clk., let contract to Fred M. Luth Construction Co., 806 Russell Blvd., St. Louis, for grading Jackson Ave.; Walter Heimbuecher, City Engr.

N. C., Charlotte—City, R. W. Rigsby, City Mgr., pave S. College St. with day labor; \$17,000; under supervision of Wayt Thomas, City Engr.

Oklahoma—State Highway Comsn., Lew Wentz, Chmn., Oklahoma City, let contracts to following firms for maintenance gravel projects, aggregating approx. \$20,434: R. C. Turner, Durant; W. E. Kimsey, Pryor; J. C. Holden, Ardmore; let contracts to L. L. Massey for gravel projects in following counties: Stephens, Comanche, Kiowa and Cotton.

Oklahoma—State Highway Comsn., A. R. Losh, Engr., Oklahoma City, let contracts to L. L. Massey, 3206 W. 12th St., Oklahoma City, and Stansbury & Mitchell, Ardmore, for road work aggregating \$13,004, in following counties: Stephens, Comanche, Kiowa and Cotton.

Tex., Dallas—City let contract to Southern Paving Co., Santa Fe Bldg., at \$25,821, for paving Lamar St., Uvalde rock asphalt. 1-1

Tex., La Feria—City, L. R. Beddoes, Mayor, pave 12 streets and widen highway through city, costing \$30,000; Valley Citrus Groves Co., E. C. Bacon, Pres., pave 6 streets in subdivision east of city; F. P. McDewreath, Harlingen, has contract for both projects, including paving, water and sewage extension.

Va., Bedford—Town let contract to Finley Construction Co. for paving Grove and Depot Sts.; probably improve South and College Sts.

## Sewer Construction

**Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.**

Ark., Dumas—Sewer Improvement Dist. No. 1, Frank R. Allen, Engr., Pine Bluff, reported, plans sewer system, storm drains, sewage disposal plant, etc.

Ark., Newport—W. F. Moody, A. O. V. W. Bldg., Little Rock, reported, has contract at \$12,500 for sewers; Hugh R. Carter, Engr., Wallace Bldg., Little Rock.

Ky., Lexington—City, J. White Guyn, Engr., plans constructing sanitary sewer on N. Broadway from Water to Fourth Sts.; cost \$11,000.

La., Gretna—City votes Feb. 19 on issuing \$150,000 bonds to finish and extend sewer system; work to begin March 1.

La., New Orleans—Ole K. Olesen, 3254 Cortez St., New Orleans, reported, has contract for 1000 tons struc. steel for pump station and drainage basin, No. 7; Southern Steel Works Co., 908 Lucien Ave., Birmingham, Ala., for 72 tons struc. steel and cast iron; G. F. Favrot, Gen. Contr., Balter Bldg. 2-5

La., New Orleans—H. Pratt Farnsworth, Canal Bank Bldg., reported, low bidder on Contract No. 210-S, alterations to drainage stations Nos. 2 and 6; Allis Chalmers Mfg. Co., Milwaukee, Wis., on Cont. 119-D motors and accessories for vertical trash pumps at drainage stations Nos. 6 and 7; Hardie-Tynes Mfg. Co., 800 N. 28th St., Birmingham, Ala., for Contract 208-S, vertical trash pumps and c. i. piping for drainage pumping stations Nos. 2, 6 and 7, Michigan Valve and Foundry Co., 3631 Parkinson St., Detroit, Mich., for Contr. 209-S, valves for vertical trash pumps at drainage stations Nos. 2, 6 and 7. 12-25

Md., Baltimore—Bd. of Awards received low bid from M. Martell, 4400 Vesta Ave., for Storm Water Contr. 162. 1-29

Md., Easton—City, reported, plans new location for sewage disposal plant; Kastenheuber & Anderson, Engrs. 12-11

Mo., Mexico—City, reported, votes soon on \$90,000 sewage disposal bonds.

Tex., Austin—City, Adam E. Johnson, Mgr., receives bids Feb. 18 for storm sewers, Contr. No. 39, including 1019 ft. of 30-in., 465 ft. of 36-in., 355 ft. of 30-in., 180 ft. of 24-in., 150 ft. of 18-in., 160 ft. of 15-in. precast conc. pipe; and for Contr. No. 40, 2130 ft. of 60-in., 360 ft. of 42-in., 355 ft. of 24-in., 1550 ft. of 18-in. and 2410 ft. of 15-in. precast conc. pipe; for Contr. No. 41, 280 ft. of 36-in., 1100 ft. of 18-in., 1700 ft. of 15-in., 280 ft. of 36-in. and 720 ft. of 24-in. precast conc. pipe.

Tex., Dallas—See Roads, Streets and Paving.

Tex., Goose Creek—City Council authorized construction of 700 ft. of 15-in. sanitary sewer line to connect with present system; also authorized calling of bids for laying 3700 ft. of 6-in. water line and installing fire hydrants.

Tex., Houston—City, reported, let contract to C. K. Horton, 2202 Clay St., at \$17,496, for sanitary sewer system in Denver Addition; Vincent A. Tozzi, 1505 Live Oak St., at \$6184, for fencing water wells, reservoirs and plants. 2-5

Va., Winchester—City plans sewage disposal plant; tank 75x35 ft.; distribution system; addition to syphon, etc.; cost \$60,000; Whitman, Requaert & Smith, Engrs., Baltimore Trust Bldg., Baltimore, Md.

## Telephone Systems

Ala., Troy—Troy Broadcasting Co., applied to Federal Radio Comsn., Washington, for construction permit to erect new station, using 1500 kc., 50 w.

Ark., Texarkana—G. L. Johnson applied to Federal Radio Comsn., Washington, for construction permit to erect new station, using 1500 kc., 100 w.

La., Shreveport—Dept. of Commerce, Aeronautics Branch, Washington, D. C., reported, establish aviation radio station at Fort Humbug overlooking Red River; cost \$40,000.

Miss., Greenwood—J. C. Penn, reported, plans radio station; applied to Federal Radio Comsn., Washington, for permission.

N. C., Gastonia—WSOC, Inc., applied to Federal Radio Comsn., Washington, D. C., for construction permit to move transmitter from 251 E. Main St. to Belmont, 10 miles east of Gastonia; and to make changes in equipment, installing automatic frequency control.

S. C., Ashworth—Ashworth Telephone Co. incorporated; J. B. Ruppe, W. C. Hines.

S. C., Beaufort—Coastal Telephone Co., capital \$25,000, incorporated; C. G. Hilliard, E. F. Cheatham.

Tex., Brownsville—Lynn Dickerson and C. A. Nietert, applied to Federal Broadcasting Co., Washington, for construction permit for new station to use, 1420 kc., 100 w.

Tex., Perryton—Majestic Electric Co., applied to Federal Radio Comsn., Washington, for construction permit to erect new station using 660 kc., 100 w.

Virginia—Central West Public Service Co., 117 N. 13th St., Omaha, Neb., reported, will acquire groups of telephone properties extending from Northern Virginia through West Virginia, including telephones at Front Royal, Luray, Shenandoah, Charlottesville, Cumberland, Farmville, Burkeville, Altavista, Halifax, South Hill and South Boston, all Virginia; Mt. Airy and Asheboro, North Carolina; Momney, Petersburg and Moorefield, W. Va.

Va., Crewe—Wm. L. Willis, reported, applied to Federal Radio Comsn., Washington, for construction permit to erect new station, using 1420 kc., 50 w.

## Textile Mills

Ga., Austell—J. E. Sirrine & Co., Greenville, S. C. Archts. and Engrs., for Clark Thread Co.'s developments at Austell, have retained E. S. Draper, Landscape Archts., 1516 E. Fourth St., Charlotte, N. C., to make plans for first village development. 1-27

Ga., Thomson—Max Robbins, Indianapolis, Ind., and C. L. Upchurch Southern Mutual Bldg., Athens, reported, acquired cotton mill at Thomson, Ga.

N. C., Brevard—Sapphire Cotton Mills, B. E. Geer, reported, will reorganize and resume operations; manufactures yarns.

N. C., Conover—Conover Knitting Co. incorporated; A. L. Shuford and associates.

N. C., Durham—Alpha Spinning Mills, Inc., capital \$50,000, incorporated; Wm. G. Bramham, First Natl. Bank Bldg.

N. C., High Point—Heilig Hosiery Corp., capital \$100,000, incorporated; L. B. Heilig, Greenway.

N. C., Marion—Gilkey Homespun Weavers, Inc., capital \$100,000, incorporated; J. Q. Gilkey, J. L. Morgan.

Tenn., Kingsport—Tennessee Eastman Corp., a subsidiary of Eastman Kodak Company Rochester, New York, announced plans being prepared and contract will be let in March for cellulose acetate yarn spinning mill having capacity of 2,500,000 lbs. annually; have plant property comprising 375 acres, section of which has been reserved for new plant; first unit will be 100x300 ft.; part four story; production expected to start Oct. 1, 1931; company has plant already in operation for production of cellulose acetate now used as base for safety motion picture film; engineering for this work will be handled by Engineering Dept. of Tennessee Eastman Corp., together with Engineering Dept. of Eastman Kodak Co., at Rochester; estimated cost \$1,000,000; brick rein. conc. and steel.

Va., Galax—Galax Knitting Co., capital \$200,000, incorporated; J. T. Pollard.

Va., Martinsville—Panmill Knitting Co., reported, let contract to Finley & McCoy, for erection of 3 story addition to mill.

## Water Works

**Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.**

Ky., Cloverport—C. W. Farley, La Grange, Ill., has contract for water works; O. E. Ferguson, Mayor; Green Engineering Co., Engrs., Paducah, Ky. 2-5

Md., Baltimore—City, Bureau of Water Supply, Edw. G. Rost, Engr., receives bids Feb. 18 for years supply of service pipe fittings.

Md., Cumberland—Legislature passed bill authorizing city to issue \$900,000 bonds for building additional dam and extending and improving water system; J. E. Greiner Co., 1201 St. Paul St., Baltimore, Engrs. 1-15

Md., Salisbury—Legislature passed bill authorizing city to issue \$75,000 bonds for water extension and improvements.

Mo., St. Louis—City, reported, plans expending \$75,000 over a period of 2 years for beautifying Howard Bend water works; about 50 acres of land will be improved for park.

Mo., Columbia—City, J. S. Bicknell, Clk., reported, let contract to Smiley Equipment Co., Carmen Bldg., Kansas City, for chlorinator.

N. C., Fort Bragg—R. E. Sholes, Raleigh, low bidder for construction water and sewer lines.

Okl., Chickasha—City voted \$193,000 water works bonds; Hawley, Freese & Nichols, Consit. Engrs., 417 Capps Bldg., Fort Worth. 1-15

Tenn., Ashland City—City, S. A. Marable, Mayor, plans expending \$30,000 for water works; preliminary survey made; construct conc. storage reservoir; install 2 deep well pumps; pipes, hydrants, etc., and probably filtration plant of service size; date of opening bids not set.

Texas—See Electric Light and Power.

Tex., Goose Creek—See Sewer Construction.

Tex., Dallas—Preston Road Fresh Water Dist., Ira P. DeLoache, Chmn., Bd. of Supervisors, recently voted \$175,000 bonds. 12-4

Tex., Fort Worth—City, O. E. Carr, Mgr., receives bids Feb. 24 for filtration plant addition; work includes administration building; 39x65 ft.; filter building, 39x107 ft.; chemical building, 55x69 ft.; sedimentation 310x138 ft.; steel, rein. trusses, aeration chamber, wash water tank; 100,000 gal. capacity; steel tank, brick covered, cost about \$450,000.

Tex., Wichita Falls—City, W. E. McBroom, City Clk., will open bids Feb. 24 for portion of work on \$1,000,000 water works improvements and for balance of work about March 15th; work consists of 6,000,000 gal. filter plant; 3,000,000 gal. raw water reservoir conc. construction, 2,500,000 gal. clear well of conc., 42-in. conduit line, 26,000 ft. long, approximately 75,000 cu. yds. of earth excavation in drainage ditch at the Lake and \$300,000 spent on distribution system.

Va., Falls Church—Town L. P. Daniel, Mayor, votes Feb. 25 on \$125,000 bonds for water works improvements; approximately 15 miles mains and laterals; storage tank and pumps, meters, etc.; will probably be connected with Washington, D. C. water system. 1-29

Va., Richmond—City, R. Keith Compton, Director of Public Works, plans improvements to purification plant; work includes installation of flood detectors, turbidimeters and a covering for clear water basin; cost \$30,000.

W. Va., Wheeling—County Court Marshall County let contract to J. A. Howard, 1311 Chapline St., for drilling wells on property of county infirmary and tuberculosis sanatorium.

### Woodworking Plants

Okla., Ada—Hazel-Atlas Glass Co., Wheeling, W. Va., plans establishing box factory, boxes to be used in shipping glass containers; orders placed for material and machinery.

Va., Radford—Miller Furniture Co., capital \$25,000, incorporated; John Morgan.

### FIRE DAMAGE

Ala., Attalla—Hammond Bldg. on Fifth Ave.; loss \$10,000.

Ala., Normal—Green Bottom Inn, owned by State and used as home for J. F. Drake, Pres. of Agricultural and Mechanical Normal Institute.

Ark., Wilmar—Hart & Wooten's store; loss \$10,000.

Fla., West Palm Beach—Faggs Mill Works & Lumber Co. on Fourteenth St.; loss \$85,000.

Ga., Cochran—Prince Theater, D. A. Brown Tailor Shop, Livingston's Barber Shop, all owned by Mrs. Carrie Pace Becker, Athens.

Ga., Millwood—L. W. Herrin's and J. W. Murray's buildings; loss \$30,000.

Ky., Harrodsburg—Geo. Roney's residence near Harrodsburg; loss \$8500.

Ky., Lexington—Wides & Baker Co.'s warehouse, 7th Ave. between Upper and Limestone Sts.

Ky., Louisville—Lumber yard of Schrader Brothers Building Co., 1003 W. Jefferson St.; loss \$15,000.

Ky., Louisville—Headquarters of J. C. Fisel Transfer Co., 115 S. Hancock St.; loss \$75,000.

Md., Hagerstown—Lumber plant of William Danzer & Co. and dwellings of Joseph Mittini and Samuel Kretegnia; loss \$150,000.

Md., Rosaryville, Duley—Mrs. Matilda Duvall's residence, Centerville Rd. near Rasmerville; loss \$50,000.

Md., Timonium—Portion of stables at Timonium Fair Grounds; Maryland State Fair and Agricultural Society of Baltimore County, Matt L. Daiger, Sec.-Gen. Mgr., Equitable Bldg., Baltimore.

Miss., Charleston—Mill sheds, office, machine shop and small buildings of Turner, Farber, Love Lumber Co.; loss \$200,000.

Miss., Meridian—Dr. Wilbern Lawrence's residence, Grand View Ave.; loss \$15,000.

Mo., Essex—Buildings at Frisco, 3 miles from Essex, including store and residence of J. C. Snider, dwelling occupied by Carter Worley, and Gardner Ray's building.

N. C., Forest City—Building occupied by City Service Station and Doggett Motor Co., owned by B. B. Doggett.

N. C., Henderson—Building on S. Garnett St., owned by Owen Davis Estate, occupied by Alford Print Shop, George A. Rose & Son's clothing store and Page-Hocutt Drug Co.

N. C., New Bern—Duffy Drug Stores, S. Front and Middle Sts.; loss \$15,000.

Okla., Enid—Garfield County court house; loss \$87,000; Enid Milling Co.'s grain elevator; loss \$50,000.

S. C., Greenville—Warehouse in Southern Ry. yards; G. L. Sitten, Ch. Engr., M. W. & S. Lines East, Charlotte, N. C.

Tenn., Etowah—Paul M. Dodd Lumber Co.'s plant.

Tenn., Gate City—Dr. S. B. Nichel's residence, Clinchport, 12 miles from Gate City.

Tenn., Humboldt—Humboldt Canning Co.'s warehouse; loss \$25,000.

Tenn., Huntington—Carroll County court house; loss \$40,000.

Tenn., Knoxville—Oliver Turner Douglass Dress Shop, Clinch Ave. and Holston Bank alley, building owned by C. B. Atkin; loss \$20,000.

Tenn., Nashville—H. B. Wright's residence, 3919 Gallatin Ave.; loss \$15,000.

Va., Cheriton—Huff Brothers Hardware Store, \$20,000; D. Pender Grocery Co.'s store, \$9000; T. W. Bennett's poolroom and residence, \$9000; J. H. Kellam's furniture repair shop, \$1500; Rayfield & Jones' store, \$15,000.

Va., Howardsville—Avon Hill, residence of Mrs. V. M. Johns, near Howardsville; loss \$6000.

Va., McCoy—Main building of Big Vein Anthracite Colliery Co.; loss \$75,000.

Va., Salem—Brown Bldg., owned by J. C. Brown, Roanoke, housing printing plant of

Salem Times-Register and Sentinel, office of R. C. Bowman & Co., and Wigginton Shoe Shop; loss \$65,000.

Va., University—Delta Epsilon Fraternity house at University of Virginia.

W. Va., Beckley—Standard Oil Co.'s warehouse; loss \$25,000.

W. Va., Clarksburg—Merendino Bldg., 719-21 E. Pike St., Kelley Hill; loss \$25,000.

W. Va., Keystone—Four dwellings owned by A. L. Calhoun, 2 owned by Jim Zingale, and 1 owned by I. L. Shore.

W. Va., Wheeling—Home Builders Supply Co.'s plant, 4200 Wood St.; loss \$20,000.

W. Va., Wheeling—Garage and auto storage place, 15th and Eoff Sts., operated by A. D. Whilden, Warwood; bldg. of Wheeling Lodge, B. P. O. E. No. 28, adjoining; loss \$200,000.

## BUILDING NEWS

### BUILDINGS PROPOSED

#### Association and Fraternal

Tex., San Angelo—Ancient Free and Accepted Masons, Herbert O'Bannon, Chmn., Bldg. Comm., having plans drawn for \$200,000 temple; Egyptian type, 2 stories; raising funds.

Va.-Tenn., Bristol—Masonic Temple Assn. ready for bids within 2 weeks for \$50,000 temple; brick and conc., 3 stories, 50x94 ft.; G. M. & G. C. Stone, Archts. 1-8

W. Va., Wheeling—Wheeling Lodge No. 28, B. P. O. E., Wade H. Kepner, Exalted Ruler, having tentative plans drawn by E. B. Franzheim, Archt., 1425 Chapline St., for lodge bldg. to replace burned structure.

#### Bank and Office

Ala., Birmingham—Regarding reports First National Bank has selected architect for bldg. on site purchased some time ago; Bank advises architect not selected.

Tenn., Kingsport—American Gas & Electric Co., C. A. Thornberg, Div. Mgr., start work in Spring on office bldg., Broad and Sullivan Sts.; fireproof, brick and stone, 2 stories and basement.

Tenn., Nashville—American National Bank has permit for \$10,000 interior remodeling of bldg., Fourth and Union.

#### Churches

D. C., Washington—National Capital Presbyterian Commission on program and finance, Justice Josiah A. Van Orsdel, member, will soon confer with ministers and sessions of presbytery to outline plans for financing proposed \$2,000,000 National Capital Presbyterian Cathedral; Dr. Albert Jos. McCartney, Church of the Covenant, is chairman of National Capital Presbyterian Commission; Cram & Ferguson, 248 Boylston St., Boston, Mass., Major Geo. Oakley Totten, Jr., 808 Seventeenth St., Washington, and E. P. Mellon, 350 Madison Ave., New York, architects. 12-29-27

La., Baton Rouge—Emmanuel Baptist Church, Rev. D. A. Youngblood, Pastor, erect \$13,000 Sunday school, North Blvd. and S. Dufrocq St.; fireproof, brick, 40x82 ft., 2 stories, about 30 classrooms; start about March 1 to raze bldg. on site; plans donated by A. J. Mayer, Struct. Engr.

La., Istrouma—Church of the Nazarene, Rev. L. L. Swett, Pastor, purchased site; plans building.

La., Thibodaux—St. Joseph R. C. Church receives bids Feb. 20 at office Emile Weil, Inc., Archts., Whitney Bk. Bldg., New Orleans, for interior finish, decorating, etc.; following contractors estimating: General—Sidney Toups; Richard Webre, both Thibodaux; Lionel F. Favret, Louisiana Bldg.; Gervais F. Favrot, Balter Bldg., both New Orleans; Interior Plastering—A. L. Fishman, 3614 Upperline St.; Moroney & Middleton, Canal Bank Bldg.; Geo. Davidson & Son, 1674 N. Dupre St.; Monahan Plastering Co., Canal Bank Bldg.; Sam C. Ball & Co., Inc., 2530 Tulane St., all New Orleans; contract let to Bernardini Statuary Co., Inc., 55 Barclay St., New York, for marble altar; let contracts later for decorations, lighting fixtures, flooring, etc. 1-29

Md., Baltimore—Protestant Episcopal Church of the Prince of Peace, Rev. Robt. E. Browning, Pastor, and Church of the Ascen-

sion merged; expend \$125,000 to enlarge Prince of Peace bldg., Walbrook; tentative plans call for erecting transepts and clerestory, extending chancel and enlarging entrance.

Md., Baltimore—North Ave. and Madison Square M. E. Churches will consolidate in June; funds from sale of Madison Square church to be used to erect auditorium at North Avenue Church, Caroline St. and North Ave.

Md., Pikesville—Zion Lutheran Church, care C. W. Roes, Archt., erect cinder block parish house; steam heat; about ready for bids.

Md., Sykesville—Methodist Episcopal Church, Rev. C. H. Richmond, Pastor, receiving revised bids, to be opened about Feb. 10, for alterations and addition to bldg.; Irvin R. Spittel, Archt., 4103 Old Frederick Rd., Baltimore. 12-18

Miss., Bonita—Oak Grove Baptist Church has low bid from Lockard & Vaughan, Kidder Bldg., Meridian, for \$20,000 bldg.; P. J. Krouse, Archt., M.-W. Bldg., Meridian. 1-20

Okla., Tulsa—Temple Israel, Nathan Gens, 1108 E. 21st St., Pres. and member Bldg. Comm., plans to start work not later than April 1 on \$150,000 synagogue, 16th St. and Rockford Ave.; 1 and 2 stories and basement, 150x150 ft., Lombard type architecture, handmade sand finished brick, tile roof, terra cotta work; Donald McCormick, Archt., Atlas Life Bldg.; plans completed.

Tenn., Ducktown—Mine City Baptist Church, Rev. O. Foster, Pastor, erect \$9000 bldg. to replace burned structure; brick veneer, 2 stories and basement, 37x70 ft., gabled or hip roof; furnishings, equipment, etc., \$2000; plans by Sunday school Bd. of Southern Baptist Convention, Nashville; Jas. Weaver, Engr., Ducktown; probably soon let contract. See Want Section—Building Material and Equipment.

Tex., Carrizo Springs—Episcopal Church, care Alta Loma Townsite Co., plans church and rectory.

Va., Grundy—Methodist Episcopal Church, South, Rev. Sam L. Jones, Pastor, opens bids Feb. 15 to rebuild burned stone structure; walls standing; stone, brick and plaster, 2 or 3 stories, 36x47 ft., \$10,000; have furnishings, equipment, etc.; plans by H. M. King, Archt., Bd. of Extension of M. E. Church, South, Louisville, Ky. See Want Section—Building Material and Equipment.

Va., Waverly—Herbert L. Cain, Archt., Grace St. Bank & Trust Bldg., Richmond, receives bids Feb. 20 for church.

#### City and County

La., Crowley—City ready for bids in about 2 weeks for \$65,000 city hall-auditorium; rein. conc., brick and cast stone trim, 2 stories, rein. conc. foundation, steel and iron work, hardwood, terrazzo and tile floors, comp. and built-up roof, marble, metal doors, steel sash, brass and bronze work, sheet metal work; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans. 1-8

La., New Orleans—City, Bryson Vallas, City Engr., has prepared 3 plans for submission to City Commission Council for repairs to terminate damage to City Hall, calling for expenditures from \$30,000 to \$700,000; and one plan for rebuilding structure at cost of \$1,200,000.



Md., Salisbury—Wicomico County Bd. of Comms., M. Clifford Smith, Pres., plans bond issue not to exceed \$290,000 for addition to and remodeling court house, erecting jail and sheriff's quarters.

Md., Westminster—Carroll County Bd. of Comms., Paul F. Kuhns, Clk., consider erecting \$125,000 addition to court house and jail.

Miss., Greenville—City Council purchased site, 220-22 Main St., for fire and police station.

N. C., Waynesville—Haywood County Bd. of Comms., will at meeting Feb. 21 pass order to erect court house and jail.

Okl., Enid—Garfield County Bd. of Comms., plan to rebuild court house noted burned at \$87,000 loss; Ellis Wells, member.

Tenn., Huntington—Carroll County Court probably rebuild court house noted burned at \$40,000 loss.

Tex., Hamilton—Hamilton County may call election on \$65,000 court house bonds.

Tex., Lubbock—Lubbock County Bd. of Comms., erect fireproof jail after plans by S. B. Haynes, Archt.; 3 stories with provision for 2 additional stories, 52x85 ft., conc. and terrazzo floors, conc. foundation, built-up roof; plans not completed.

### Dwellings

D. C., Washington—La Salle Park Corp. has permit for 2 brick and tile dwellings, 1816-20 Varnum St., N. E.; 2 stories; total \$12,000.

D. C., Washington—B. P. Evans has permit for 2 dwellings, 5629 Broad Branch Rd. and 3404 Quesada St.; brick, 2 stories; total \$14,500.

D. C., Washington—J. E. Fox, 5908 16th St., erect dwelling, 4519 S. Dakota Ave., N. E., after plans by Paul F. Fox, 838 Delafield Place, N. W.

D. C., Washington—H. W. Seaford, Investment Bldg., erect residence, 7546 14th St., N. W., after plans by Paul F. Fox, 838 Delafield Place, N. W.

D. C., Washington—Jas. C. Nealon, 1000 I St., N. E., has permit for 3 brick and cement block dwellings, 321-25 Madison St., N. W.; 2 stories; total \$21,000.

D. C., Washington—Clarence E. Bright, 1351 Spring Road, N. W., erect \$20,000 residence, 7125 Sixteenth St., N. W.; wood and stone, 2½ stories.

D. C., Washington—Azel M. Sheppard, Bond Bldg., has permit for \$10,500 dwelling, 5421 31st St., N. W.; 2 stories, brick.

D. C., Washington—Louis F. Peak, 1852 Wyoming Ave., N. W., erect residence, 3314 Military Rd., after plans by Chas. E. Dillon.

D. C., Washington—Frank L. Farington erect residence, 3416 Northampton St.; plans by owner.

D. C., Washington—Ben Segreti, 5242 41st St., N. W., erect residence, 5435 31st St., after plans by E. W. Syme, 907 15th St., N. W.

Ga., Atlanta—Mrs. W. P. Romberger, Austell Way, receives bids Feb. 14 for \$15,000 residence, Habersham Rd.; 2 stories and basement, 37x26 ft., conc. foundation, brick, hardwood and tile floors, slate and metal roof; Owen J. Southwell, Archt., 199 Powers Ferry Rd.; following contractors estimating: Gilbert Beers; Norwood Griffin & Co., both Bona Allen Bldg.; Stratton Hard, 289½ Peachtree St., N. E.; Higdon & McDonald; Geo. Sprull, Moore Mill Road; T. K. Windham, Mortgage Guarantee Bldg.; Christian & Bell, Red Rock Bldg.; W. F. Kinney, 1655 Flat Shoals Ave.; Donald McIver.

Ga., Atlanta—R. H. Dobbs, Sr., 573 W. Peachtree St., N. W., plans \$33,000 residence, Druid Hills.

Md., Baltimore—Everett R. Morse, Lexington Bldg., plans residence, St. Albans Way and Belvedere Ave.; architect not selected.

Md., Baltimore—George B. Engeman, The Sun, having plans drawn by Holden, McVaughlin & Associates, 670 Fifth Ave., New York, for residence, Boyce Ave.; advises will not be built for another year.

Md., Baltimore—Geo. R. Morris, Morris Bldg., erect residence, Homeland; brick and stone, 2½ stories; Palmer & Lambdin, Archts., 513 N. Charles St.

Md., Baltimore—Chas. M. Ness, care Palmer & Lambdin, 513 N. Charles St., plans \$36,000 residence, Amberly Way and Cotswold Rd., Homeland, in Fall; plans by owner.

Okl., Bartlesville—C. E. Burlingame erect \$25,000 Spanish type residence; swimming pool; artificial lake; Walton Everman, Archt.; drawing plans.

S. C., Charleston—Dr. J. Sumter Rhame, 81 Wentworth St., has low bid at \$21,195 from Southeastern Construction Co., 210 W. Second St., Charlotte, N. C., for residence; J. D. Newcomer, Archt., 32 Broad St., Charleston.

Tex., Bay City—Humble Oil Refining Co., Houston, completed plans for first of 18 officials' residences; stone and stucco, California Mission type, tile floors; total \$150,000.

Va., Amherst—Southern Mineral Products Corp., 120 Broadway, New York, erect 50 employees' dwellings, at plant under construction, Amherst County.

### Government and State

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids Feb. 16 for survey of site for bldg. for Post Office Dept.; Delano & Aldrich, Archts., 126 E. 38th St., New York.

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids Feb. 16 for survey of site for \$865,000 Public Health Service Bldg.; J. H. DeSibour, Archt., 1200 Fifteenth St., N. W.

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., opens bids Feb. 17 for survey of site for \$4,750,000 Interstate Commerce and \$4,500,000 Department of Labor buildings; Arthur Brown, Jr., Archt., 251 Kearny St., San Francisco, Calif.

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., opens bids Feb. 17 for survey of site for \$5,000,000 Department of Justice bldg.; Zantzinger, Borie & Medary, Archt., Otis Bldg., Philadelphia, Pa.; Isaac Hathaway Francis, Heating-Pibg.-Wiring Engr., 1520 Locust St., Philadelphia; Gravel & Duncan Lewis, Struct. Engrs., Tower Bldg., Washington.

D. C., Washington—National Museum, 10th and B Sts., N. W., J. S. Goldsmith, Supt., having plans drawn for \$25,000 steel gallery.

Fla., Kissimmee—Additional prospective estimators on post office, bids Feb. 17 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Earl E. Garber & Co., Bethlehem, Pa.; John W. Hudson, Jr., Inc., Raleigh Bank & Trust Bldg., Raleigh, N. C.; J. M. Raymond Construction Co., Hildebrandt Bldg.; H. S. Baird, Inc., Atlantic Natl. Bank Bldg.; G. W. Hessler, Inc., 111 W. Ashley St.; O. P. Woodcock Co., 421 Duval Bldg.; W. T. Hadlow, 32 W. Forsyth St., all Jacksonville, Fla.; Murphey Pound, P. O. Box 422, Columbus, Ga.; Algernon Blair, First Natl. Bank Bldg.; Sanford Bros., Inc., 301 Washington Ave.; Upchurch Construction Co., 224 Bell Bldg., all Montgomery, Ala.; A. J. Honeycutt, 2512 Eighth Court; E. C. Coston Construction Co., 3019 Sixth Ave., South, both Birmingham, Ala.; Rosen & Fischel, Inc., 11 S. LaSalle St., Chicago, Ill.; G. A. Hanson Co., Tampa, Fla.; Robert Riedel Co.; Geo. C. Carr, both Kissimmee; Beeler & Co., Inc., Johnson City, Tenn.; Theriault Contracting Co., 534 E. Johnson St., Philadelphia, Pa.; DaCamara-Chase, Inc., Palm Beach, Fla.; J. Y. Cooch Co., P. O. Box 2081, Miami, Fla.; Fanning & Sweeney, Jefferson Bldg., Greensboro, N. C.

Ky., Madisonville—Prospective estimators on post office, bids Feb. 26 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; James I. Barnes, Logansport, Ind.; Key-Longston Construction Co., Murray, Ky.; Ruby Lumber Co., Madisonville; Earl E. Garber, Bethlehem, Pa.

Md., Aberdeen Proving Ground—Constructing Quartermaster has low bid at \$59,700 from R. G. Hopkins, 904 E. 41st St., Baltimore, for hospital.

Md., Chestertown—National Guard, Adjt.-Gen. Milton A. Reckord, plans armory; stone or brick, 1 story; work may go forward in April or May.

Mo., Kansas City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., have plans ready in few weeks for bids for \$4,500,000 post office.

Mo., Sikeston—Additional prospective estimators on post office, bids Feb. 16 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Rosen & Fischel, Inc., 11 S. LaSalle St.; West Englewood Construction & Supply Co., 6239 S. Ashland Ave.; Geo. Thomson & Son Co., 30 N. LaSalle St.; Geo. W. Stiles Co., 664 N. Michigan Ave., all Chicago, Ill.; Roscoe H. Wiltecke, J. A. Sutterfield Construction Co., both Sikeston; Geo. H. Gassman Construction Co., Poplar Bluff, Mo.; Earl E. Garber & Co., Bethlehem, Pa.; C. F. Hentschel, 1211 S. Pickwick Ave.; O. L. Allen, 1840 N. Douglas Ave., both Springfield, Mo.; Evans Bros. Construction Co., 315 N. Fifth St., Springfield, Ill.; Charles H. Barnes, 512½ Fifth St., Logansport, Ind.; Hiram

Lloyd Building & Construction Co., Syndicate Trust Bldg.; W. D. Gladney, 3526 West Place; C. F. Reinhart Construction Co., S. W. Bell Telephone Bldg.; Duffner & Stecker Construction Co., 119 N. Seventh St.; Wilkins & Philippi, American Trust Bldg., all St. Louis, Mo.; J. J. Miller Construction Co., Illmo. Mo.; Theriault Contracting Co., 534 E. Johnson St., Philadelphia, Pa.; Messenger & Dalton, Pittsburg, Kan.; C. J. Newlin Co., Normal, Ill.; Gerhardt & Son, 633 Broadway, Cape Girardeau, Mo.; W. D. Lovell; Phelps-Drake, Inc., both Minneapolis, Minn.; Davis-Williamson Co., Muskogee, Okla.; L. B. Pipes, Fort Scott, Kan.; Kellogg & Anderson, Sedalia, Mo.; Oriman & Dreher, Flint, Mich.

Okl., Bartlesville—Prospective estimators on \$310,000 post office, bids Feb. 24 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Phelps-Drake Co., Inc., Metropolitan Life Bldg.; W. D. Lovell, both Minneapolis, Minn.; Eastergard & Bullard, Dodge City, Kan.; Holmboe Construction Co., 320 Petroleum Bldg.; H. W. Underhill Construction Co., Brantiff Bldg.; W. S. Bellows Construction Co., P. O. Bldg., all Oklahoma City, Okla.; Theriault Contracting Co.; Washington Elevator Co., 30th and Walnut Sts., both Philadelphia, Pa.; Great Lakes Construction Co., Insurance Bldg.; A. B. See Elevator Co., 1343 H St., N. W., both Washington; A. M. Lundberg; Murch Bros. Construction Co., both Ry. Exch. Bldg., St. Louis, Mo.; Yeager & Sons, Danville, Ill.; R. P. Farnsworth & Co., Inc., Maritime Bldg., New Orleans, La.; Strandberg Bros. Co., Transportation Bldg., Chicago, Ill.; Algernon Blair, First Natl. Bk. Bldg., Montgomery, Ala.; McMillen & Shelton, Enid, Okla.; DeVault & Deitrick, Inc., Canton, O.; Earl E. Garber & Co., Bethlehem, Pa.; Rucks-Brandt Construction Co., Thompson Bldg.; W. H. Horster, Exch. Natl. Bank Bldg., both Tulsa, Okla.; R. M. Everett, Tecumseh, Okla.; Gurney Elevator Co., 109 W. 64th St., New York; Atlantic Elevator Co., Erie Ave. and D St., Philadelphia, Pa.; Houghton Elevator & Machine Co., 1103 Vermont Ave.; General Elevator Co., 1200 15th St., N. W.; Otis Elevator Co., 810 18th St., N. W., all Washington.

Tenn., Lookout Mountain—Following contractors estimating on caretaker's quarters and comfort station, Point Park, bids Feb. 24 by Constructing Quartermaster, Fort Oglethorpe, Ga.; Geo. Becking & Son; D. F. Brandon, both James Bldg.; A. F. Hahn; J. M. Allen, both Chamberlin Bldg.; S. C. Page & Son, Hamilton Bldg.; M. C. Catlett Co., Provident Bldg.; Rogers & Leventhal, 822 E. 11th St.; Smith Bros., 213 E. Tenth St.; Young & Jones, Brainerd Rd.; Orr-Barnes Construction Co.; Home Builders Service Co., both Volunteer Bldg., all Chattanooga, Tenn.; Collins Bros.; Smallwood Construction Co., both St. Elmo, Tenn.

Tenn., Union City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids March 2 for remodeling and enlarging post office; \$30,000; drawings from office Supvg. Archt.

Tex., Huntsville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids March 12 for construction (except elevator) of post office, etc.; drawings from office Supvg. Archt.

Tex., Randolph Field—Constructing Quartermaster, Randolph Field, Capt. A. W. Parker, receives bids until March 6 for 11 field officers' quarters; Spanish or Mission type, preproof, masonry, 2 stories, total about \$160,000; Herbert S. Green, Archt., San Jacinto Bldg.; W. E. Simpson & Co., Engrs., Milam Bldg., both San Antonio.

Tex., San Antonio—Constructing Quartermaster, Normoyle Quartermaster Depot, Fort Sam Houston, receives bids Feb. 24 (extended date) for company barrack bldg., Camp Normoyle; brick, struct. clay tile, rein. conc., accommodate 150; \$180,000 available; following have received plans: Splady & Haagen-son, 711 Pence Bldg., Minneapolis, Minn.; Bellows-Maclay Construction Co., 603 Construction Bldg.; A. J. Rife Construction Co., 1913 N. Harwood St.; F. A. Mote, 515 Construction Bldg., all Dallas, Tex.; Dielmann Construction Co., 306 E. Commerce St.; Rheiner & Kroeger, 305 Wyoming St.; L. T. Wright, 714 Milam Bldg.; Wm. Benton, 220 W. Park Ave.; G. W. Mitchell, 312 Builders Exch. Bldg.; Gilbert Falbo Co., 107 Morales St., all San Antonio, Tex.; Robert E. McKee, 1900 Texas St., El Paso, Tex.; S. & W. Construction Co., Randolph Field, Tex.; Rosen & Fischel, 11 S. LaSalle St., Chicago, Ill.; Messenger & Dalton, Box 603, Pittsburg, Kan.; O. M. Gwin Construction Co., 3503 Fern St., New Orleans, La.; Morley Bros. Construction Co., 1643 Bellevue St., Kansas City, Mo.; James I. Barnes, Springfield, O.; Geo. Griffiths Construction Co., 1123 Arcade Bldg., St. Louis, Mo.

Va., Fortress Monroe—Constructing Quartermaster, Fort Monroe, receives bids until March 3 for bachelor officers' quarters.

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, reported, have plans by Upman & Adams, Archts., Woodward Bldg., Washington, D. C., ready in 2 weeks for bids for \$175,000 hospital; brick and conc., 2 and 3 stories, slate or tile roof, steam heat. 1-22

### Hospitals, Sanitariums, Etc.

Ala., Tuskegee — United States Veterans Bureau, Arlington Bldg., Washington, D. C., erect \$200,000 colored soldiers' home. See D. C., Washington.

D. C., Washington—United States Veterans Bureau Hospitalization Bd. decided to expend \$200,000 for home for colored soldiers at Tuskegee, Ala., and divide \$1,800,000 between erection of soldiers' home in Mississippi and soldiers' home in Florida; \$2,000,000 originally planned to be expended on one home in South.

Florida—United States Veterans Bureau, Arlington Bldg., Washington, D. C., erect soldiers' home in Florida. See D. C., Washington.

Fla., Tampa—Junior League plans addition to preventorium; Franklin O. Adams & J. M. Hamilton, Archts., 509 Twigg St., will donate plans; G. A. Hanson, 2115 Madison St., offers to serve as contractor.

Md., Baltimore—Board of Supervisors of City Charities, City Hall, has low bid at \$37,900 from C. W. Schmidt, Hearst Tower Bldg., for alterations to Ward A. Baltimore City Hospitals; Palmer & Lamdin, Archts., 513 N. Charles St.; Van Rensselaer Saxen, Engr., 217 N. Calvert St. 1-29

Mississippi—United States Veterans Bureau, Arlington Bldg., Washington, D. C., erect soldiers' home in Mississippi. See D. C., Washington.

Miss., Gulfport—United States Veterans Bureau, Arlington Bldg., Washington, D. C., has low bid at \$31,190 from Louis Gertner, Jr., Chicago, Ill., for sewage disposal plant. U. S. Veterans Hospital. 1-29

Miss., Jackson — Mississippi Building Comsn., R. L. Brown, Sec., receives bids Feb. 28 for washed gravel, pit gravel, building gravel and sand, cement, rein. steel, drain tile and form lumber for road constr. in connection with \$5,000,000 Mississippi Insane Hospital; N. W. Overstreet, Archt., Standard Life Bldg., Jackson; Vinson B. Smith, Advisory Archt., Gulfport. 1-29

Miss., Oxford—Mississippi Building Comsn., W. C. Trotter, Sec., University, Miss., receives bids until March 5 for rein. conc. and brick hospital at University of Mississippi, exclusive of heating, plumbing and elect. work; \$75,000; plans from Bem Price, Archt., 1420 Comer Bldg., Birmingham, Ala. 12-18

N. C., New Bern—County Commrs. of Craven, Pamlico, Onslow and Jones counties considering erection of joint county charity hospital to cost about \$150,000; 50 beds; half of cost to be borne by counties, remainder from Duke Endowment, Charlotte. Address Craven County Bd. of Commrs., New Bern.

Tenn., Nashville—Following contractors estimating on remodeling and new units for Nashville General Hospital, \$500,000, bids Feb. 16 at office Asmus & Clark, Archts., Nashville Trust Bldg.: Angle-Blackford Co., American Bank Bldg., Greensboro, N. C.; A. R. McMurtry, 502 Island Home Ave.; Worsham Bros., Empire Bldg., both Knoxville, Tenn.; Rogers & Leventhal, E. 11th and Park Ave., Chattanooga, Tenn.; Southern Ferro Concrete Co., 70 Ellis St., Atlanta, Ga.; Bryer & White, 311 Church St.; Foster & Creighton Co., Fourth and First Bank Bldg.; W. R. Smith & Son, Cotton States Bldg.; Boone Contracting Co., 156 Fourth Ave., North; M. & Q. Construction Co., Arcade Bldg.; J. B. Regen, 127 Fifth Ave., North; Rock City Construction Co., 134 Fourth Ave., North; Zopf Construction Co., Ind. Bldg.; W. L. Hailey Co., Cotton States Bldg.; V. L. Nicholson Co., Ind. Bldg., all Nashville. 2-5

Tex., Houston—Houston City Council, Walter E. Monteith, Mayor, and Harris County Bd. of Commrs. selected Alfred C. Finn, Bankers Mtg. Bldg., and Joseph Finger, Democratic Bldg., as architects for \$1,500,000 city-county hospital; Dr. Christopher Parnell, Consultant, Rochester, N. Y. 1-8

Tex., Waco—Additional prospective estimators on \$1,500,000 U. S. Veterans Hospital, bids Feb. 21 by U. S. Veterans Bureau, Arlington Bldg., Washington, D. C.: Yeager & Sons, Danville, Ill.; L. Balkin Co., 1850 W. Austin Ave.; L. Gertner, Jr. (plumbing and heating), 832 E. 53rd St.; Harvey A. Hanson Construction Co., 520 N. Michigan Ave.; Leo Michuda & Son, -0944 S. Michigan Ave.; Chas. Westberg & Co., 623 S. Oakley Ave., all Chicago, Ill.; Farwell Co. (p. and h.), 3220 Ash Lane; Otis Elevator Co., 1822 Young St.; Bellows-Maclay Construction Co., Construction Bldg., all Dallas, Tex.; Greenwood Electric Co., 4849 Chestnut St.; Pennsylvania

Engineering Co. (refrig.), 1119 N. Howard St.; York Ice Machinery Co., 1238 N. 44th St.; Cochran Corp., all Philadelphia, Pa.; Doyle Electric Co., Waco; Electro Construction Co., Inc. (elect.), 721 Tower Bldg., Washington, D. C.; Roberts Electric Co., Sherman, Tex.; Eugene Ashe Electrical Co., 505 Jones St.; Baker Ice Machine Co., 509 E. Third St.; both Fort Worth, Tex.; Keller Electrical Co., Main and 11th St., Dubuque, Iowa; L. M. Harper (p. and h.), P. O. Box 233, Pineville, La.; Kimball Bros. (elevator), Ninth St. and 11th Ave., Council Bluffs, Iowa; American Elevator & Machinery Co., 500 E. Main St., Louisville, Ky.; Haughton Elevator & Machinery Co., 671 Spencer St., Toledo, O.; A. H. Schafer Plumbing & Heating Co., 829 N. St. Marys St., San Antonio, Tex.; Elgin Softener Corp., Elgin, Ill.; Graver Tank & Manufacturing Co. (water softener), East Chicago, Ind.; C. J. Gleason, 1720 Walton Way (p. and h.); Young Electric Works, 857 Reynolds St., both Augusta, Ga.; Johnson & Davis Plumbing & Heating Co., 2235 Arapaho St., Denver, Colo.; R. H. Bouligny, Inc., 509 W. Morehead St., Charlotte, N. C.; Keystone Engineering Co. (elect.), 335 Walnut St., Reading, Pa.; Ray A. Phelps (elect), Beloit, Wis.; Dixie Electric Construction Co., Box 1967, Birmingham, Ala.; Gee Electric Co., 117 N. Fifth St., Waco; Newberry Electric Corp., 726 S. Olive St., Los Angeles, Calif.; Schultz & Fuhr, Inc. (elect.), 207 E. Erie St.; Vilter Manufacturing Co. (refrig.), both Milwaukee, Wis.; James Reid, 41 E. 26th St., Bayonne, N. J.; J. L. Powers, Bennettsville, S. C.; Baker Ice Machine Co., Omaha, Neb.; Broome Electric Co., 515 Tyler St., Amarillo, Tex. 1-29

### Hotels and Apartments

Ala., Montgomery—Capital City Hotel Co., Dr. S. D. Suggs, Pres., Shepherd Bldg., does not plan 100-room addition to Jefferson Davis Hotel at this time. 2-5

D. C., Washington—B. B. Allen, 109 C St., N. E., has contract for excavation for 1-story and mezzanine, 54x136 ft., stone and marble banquet hall, gymnasium, recreation hall, etc., at New Amsterdam Apartments, 2701 14th St., N. W.

La., Baton Rouge—A. C. Glassell, City Bank Bldg., Shreveport, receives bids at Baton Rouge Feb. 20 (extended date) for 4-story addition to 3-story Hotel Heidelberg for Interstate Hotel Co.; \$200,000; steel frame, conc. floor slabs, terrazzo, tile and cement floors, marble, metal doors, built-up roof, steel sash and trim, hollow tile, terra cotta trim, vaults, ventilators, wire glass, brass and bronze work; Edw. F. Neild, Archt., City Bank Bldg., Shreveport. 2-5

Ga., Atlanta—T. R. Benning, Haas-Howell Bldg., reported, plans brick veneer, stone trim, 12-apartment, Highland Ave. and Colquitt St., N. E.; comp. roof, hardwood and tile floors, steam heat.

Md., Baltimore—Max H. Bernstein, St. Paul and Madison Sts., having plans revised by J. C. Spedden, 2715 Harlem Ave., for additions to Hotel Abbey; 2 and 4 stories, 27x26 ft. and 27x29 ft., brick, slate roof, tile baths, wood floors, steam heat. 2-5

N. C., Williamston—Atlantic Hotel remodel building and erect 20-room addition; telephone exchange is being installed.

Okla., Oklahoma City—A. L. Welch soon let contract for \$175,000, one-story and basement, brick, stone and rein. conc. addition to hotel; J. D. Mathews, Archt., Magnolia Bldg.

Okla., Tulsa—Tulsa Opera House, Charles B. Peters, George Cathey, and others, reported, erect \$1,500,000, 10-story union bus terminal, office and hotel building, Second St. and Cincinnati Ave., from which there will be access to union station by means of underground tunnel.

S. C., Columbia—John C. Coulter, 1516 Richland St., and Thomas E. Hair, 1211½ Washington St., plan to start work in March on \$150,000, 8-story apartment, 1300 block Pickens St.

Tex., Longview—Hilton Hotel Co., C. N. Hilton, Pres., 1933 Main St., Dallas, reported, plans 10-story, 500-room hotel, Green and Tyler Sts.

Va., Hillsville—Hillsville Inn, Mrs. Gilman Gwynn, plans rebuilding structure recently damaged by fire.

Va., Hopewell—S. P. Anthony, 721 W. Broadway, having plans prepared by Osbert L. Edwards and plans to start work in 60 days on \$150,000, 117x73 ft., brick, stone and steel hotel, Randolph and Cawsons Sts. 2-5

### Miscellaneous

D. C., Washington—Paul P. Cret, Archt., Architects Bldg., Philadelphia, Pa., advises regarding erection of French Embassy: "No

money has been appropriated for its construction, and this office is not even working on preliminary plans at this time; will not proceed until at least 1932." 1-22

Md., Baltimore—A. S. Greenfield, 2111 Rupp St., ready for bids about May or June for clubhouse, tenant houses, tennis courts, golf course, etc. for country club for negroes, on Back River Neck Road. 10-16

Md., Baltimore—Biltmore Athletic and Country Club, Wade H. D. Warfield, Pres., Sykesville, plans to call for bids in few days for 13-story, 100x100 ft. clubhouse, 219 N. Calvert St.; fireproof, brick and conc. frame, 4 elevators, 107 bedrooms; Frederick A. Fletcher, Archt., 13 W. Franklin St.; J. Hamilton Walker, Mech. Engr., 109 E. Pleasant St.; Kubitz & Koenig, Struc. Engrs., Emerson Tower Bldg. 10-23

Tex., Dallas—Catholic Woman's League has plans by Henry Coke Knight, Wilson Bldg., for \$27,000, 3-story, brick, fireproof addition to St. Rita's Club, Maple Ave. and Randall St.; tile roof; also has plans by Mr. Knight for \$60,000 addition to be built later.

Va., Crozier—L. E. Warner, Archt., Grace St. Bank & Trust Bldg., Richmond, prepared plans for Colonial Tea Room.

### Railway Stations, Sheds, Etc.

Fla., Sneads—Louisville & Nashville R. R., W. H. Courtenay, Ch. Engr., Louisville, Ky., erect brick station to replace structure destroyed by fire.

S. C., Charleston—Seaboard Air Line Ry. Co., W. D. Faucette, Ch. Engr., Norfolk, Va., submitted plans to city for approval for passenger station; 57x21 ft., with 115 ft. butterfly shed 18 ft. wide, stucco.

Tex., Dallas—Burlington & Rock Island R. R., W. S. Broome, Engr., Houston, reported, erect \$500,000 freight terminal, Young St.

### Schools

D. C., Washington—District Commrs., Roland M. Brennan, Ch., Engr. Dept., Dist. Bldg., have low bid at \$160,600 from W. P. Rose Co., Goldsboro, N. C., for addition, including 10 classrooms and 2 gymnasiums, also alterations for same, to Stuart Junior High School, Fourth and E Sts., N. E.; A. L. Harris, Municipal Archt. 1-29

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr., Div., plans addition to Harrison Colored Elementary School, 13th and W Sts., N. W.; A. L. Harris, Municipal Archt., Dist. Bldg.

Fla., Gainesville—State Bd. of Control, P. K. Yonge, Chmn., Carling Hotel, Jacksonville, receives bids Feb. 16 for alterations and additions to library building at University of Florida; \$100,000, 4 stories, 71x41 ft., rein. conc., brick, steel, rein. conc. and hollow tile, cast stone trim, linoleum and mastic floors, built-up roof, one passenger electric elevator; plans by Rudolph Weaver, Archt. for Bld., Peabody Hall, Gainesville; following contractors estimating: General—Grann Construction Co., Red Rock Bldg., Atlanta, Ga.; Arthur F. Perry, Jr., Inc., Barnett Bank Bldg.; S. S. Jacobs Co.; J. M. Raymond Construction Co., both Hildebrandt Bldg.; Geo. W. Hessler, Inc., 111 W. Ashley St.; The Geo. D. Auchter Co., 600 E. 4th St.; O. P. Woodcock Co., Duval Bldg., all Jacksonville; Logan Bros., 207 N. Willow Ave., The G. A. Hanson Co., Box 2575, both Tampa; Hinely Construction Co., Live Oak; Winston & Penny, Gainesville; H. B. Trauger Construction Co., 872 S. Success Ave., Lakeland; Electric—Lipscomb & Roe Electric Co., Lakeland; Miller Electric Co., Jacksonville; Plumbing—J. D. Points & Co., Palatka; W. M. Durnall, Inc., Lakeland; G. E. Osgood, Florida Theater Bldg.; Walter Densom, 2916 Olga Place, both Jacksonville. 1-15

Fla., Winter Haven—Following contractors estimating on \$200,000 Knowles Chapel at Rollins College, Dr. Hamilton Holt, Pres., date bids not announced: George W. Hessler, 111 W. Ashley St.; Arthur F. Perry, Jr., Bisbee Bldg., both Jacksonville; James Peterson Construction Co., Inc., Central Arcade, Orlando; J. B. Orr, Inc., N. E. Sixth St., Miami; Spanish type, colored stucco, artificial stone trim, tile roof; install organ; Cram & Ferguson, Archts., 248 Boylston St., Boston; Kiehnel & Elliott, Asso. Archts., Seybold Bldg., Miami. 2-6

Ga., Atlanta—Georgia School of Technology, Prof. Montgomery Knight, Aeronautical Dept., install \$16,000 wind tunnel in Aeronautical Bldg.; struc. steel frame, metal lath and gunite exterior; bids in.

La., Monroe—Following contractors estimating on \$300,000, 3-story, 287x130 ft., 20-classroom, rein. conc., brick Junior High School, bids Feb. 18 by Ouachita Parish School Bd., T. O. Brown, Supt.; W. C. Salley,



Ouachita Bank Bldg.; Lee Ellis, Old Central Bank Bldg.; W. H. Blanc, all Monroe; Tudor & Ratcliff, Commercial Bank Bldg., Alexandria; Ashton Glassell Co., 260 Cadillac St.; W. Murray Werner, Commercial Bank Bldg., both Shreveport; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg., Monroe. 1-22

Ga., Valdosta—Emory University, Dr. Harvey Cox, Pres., receives bids Feb. 18 for \$50,000, 2-story and basement, 87x38 ft., rein. conc., brick and tile, limestone trim dormitory; slate roof, terrazzo and tile floors; Ivey & Crook, Archts., Candler Bldg., Atlanta; following contractors estimating: Norwood Griffin Co., Bona Allen Bldg.; A. K. Adams, 542 Plum St., N. W.; T. C. Wesley & Son, Red Rock Bldg.; Donald McIver, Candler Bldg.; Griffin Construction Co., 452 Spring St., N. W.; Pittman Construction Co., Rhodes Bldg.; Brazell, Miller & Newbanks, Norris Bldg., all Atlanta; Batson-Cook Co., West Point; Murphey Pound, Hill Bldg., Columbus; R. H. Smallings & Sons, Fourth Natl. Bank Bldg., Macon; Ledsinger & Turner, Brunswick; R. N. McEachern, Douglas. 1-1

La., Plaquemine—Iberville Parish School Bd., P. L. Terrebonne, Supt., receives bids March 10 for 2-story, brick high school at Plaquemine, 2-room frame addition to school at Crescent and 2-room frame buildings at Grand Bayou and Bayou Pidgeon; sold \$120,000 bonds; plans from Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans. 1-15

Md., Baltimore—Bd. of Public Improvement Comsn., H. J. Leimbach, Supv. Engr., purchased Julian Leroy White estate of 6½ acres in Northwest Baltimore for school for white handicapped children; site is improved by mansion and brick stable; mansion will be modernized and rooms arranged for medical examinations and treatment of students and school will be erected near it; prob. two floors, brick and stone; site will be purchased for school for negro handicapped children; two schools to be built out of \$1,500,000 loan approved by voters or city last November; Wm. F. Stone, Jr., 2612 N. Charles St., and MacKenzie & Cross, Professional Bldg., Trechts. 12-25

Md., Baltimore—Bd. of Public Improvement, Wm. Lee Smith, Chmn., and School Bd., Wm. Lee Rawls, Pres., announced selection of block bounded by Ellwood Ave., Robinson, Pratt and Lombard Sts., as site for proposed Southeastern Junior High School; \$800,000 to \$900,000 available for school; Wyatt & Nolting, Archts., Keyser Bldg. 1-1

Md., Baltimore—Bd. of Public Improvement Comsn., H. J. Leimbach, Supv. Engr., soon ready for bids for 3-story, brick addition to School No. 113, Federal and Carter Sts.; Benj. Frank, Archt., 517 N. Charles St. 10-23

Md., Churchville—Harford County Bd. of Education, C. Milton Wright, Supt., Bel Air, erect 2-story brick school; John B. Hamme, Archt., 31 W. Market St., York, Pa.; bids in. 1-1

Md., Salisbury—Wicomico County Comms. passed resolution to request Legislature to pass emergency bill authorizing county to issue \$250,000 bonds to complete \$300,000 Salisbury High School, under construction, not to exceed \$110,000, addition to Delmar High School, \$75,000, and Mardela High School, \$65,000; Cogswell Construction Co., 406 Park Ave., Baltimore, Gen. Contr. for Salisbury High School, and Smith & May, Calvert Bldg., Baltimore, Archts. for same. 9-11

Miss., Pascagoula—Jackson County Bd. of Supervisors receives bids March 2 for school for Orange Lake Consolidated School Dist.; Shaw & Woleben, Archts., Gulfport. 1-1

Tex., Beeville—Beeville Ind. School Dist. Bd. of Trustees, John R. Beasley, Pres., having plans prepared by W. C. Stephenson and Malcolm Simmons for school improvements; election soon on \$100,000 bonds. 12-18

Tex., Crane—Crane School Dist., J. H. Bankston, has plans by Peters, Strange & Bradshaw, Archts., Big Spring, for \$125,000, 2-story, brick high school; hardwood, terrazzo and comp. floors; steel sash and trim, gypsum tile, tile roof. 1-29

Tex., Galveston—University of Texas, J. W. Calhoun, Comptroller, Austin, receives bids Feb. 28 for \$375,000, 4-story, brick and rein. conc., stone laboratory addition at Medical College; Herbert M. Greene, LaRoche & Dahl, Archts., Construction Bldg., Dallas. 1-15

Tex., Girvin—Girvin Ind. School Dist., J. E. Greer, Supt., erect \$40,000, brick and conc. school. 1-1

Tex., Laredo—Laredo Ind. School Dist., W. P. Galligan, Supt. of Schools, having plans prepared by Gliesecke & Harris, Norwood Bldg., Austin, for school improvements; plans election about May 1 on approx. \$350,000 bonds. 1-1

Tex., Perryton—Perryton Ind. School Dist.

plans \$65,000 school addition; voted Feb. 10 on bonds.

### Stores

Ga., Augusta—Montgomery Harrison, Campbell Bldg., rebuild 2-story brick store, recently damaged by fire; \$50,000; comp. roof; Willis Irvin, Archt., S. F. C. Bldg.; Ruben's Dept. Store, Lessee.

Ga., Augusta—Mangel's Department Store, Inc., 820 Broad St., having preliminary plans prepared by Willis Irvin, S. F. C. Bldg., for \$15,000 improvements.

Ga., Columbus—Frosty Morning Shops, care E. George Sanders, William-Oliver Bldg., Atlanta, having plans prepared for shops in Columbus; also Jacksonville, and St. Petersburg, Fla., Birmingham, Ala., Jackson, Miss., and New Orleans, La.

La., Shreveport—S. H. Bolinger, City Bank Bldg., soon ready for bids for one-story, brick building, Greenwood Road and Carrie St.; E. A. George, Archt.

Md., Westport, Baltimore—Louis A. Demely, 2234 Demely Road, having plans prepared by Bertram Evander, 20 E. Lexington St., Baltimore, for 2-story, brick, cinder block and stucco store and apartment, Annapolis Road.

Mo., Kansas City—J. W. Jenkins Sons Music Co., 1015 Walnut St., has plans by Chas. A. Smith, Finance Bldg., for 2-story addition to present 6-story building, 1217-23 Walnut St., and for 8-story annex; planned to begin work about April 1; \$500,000.

## BUILDING CONTRACTS AWARDED

### Association and Fraternal

Fla., Tampa—Young Women's Christian Assn. let contract at \$41,593 to W. E. Rubush, 501 Morgan St., for first unit of \$100,000 bldg.; lobby, cafeteria, offices, clubrooms, 2 floors of dormitory rooms and roof garden; Mediterranean type, 4 stories with foundation for 2 additional floors, first 2 floors 42x100 ft., remainder 42x42 ft., brick and tile, stone trim, conc. foundation, tar and gravel roof; M. Leo Elliott, Inc., Archt., 706 Franklin St.; heating, painting and elect. fixtures not in contract; gymnasium and locker rooms later. 1-22

Va., Richmond—United Daughters of Confederacy, Mrs. A. P. Montague, Pres., Bd. of Mgrs., of Home for Needy Confederate Women, let contract at \$243,843 to Allen J. Saville, Inc., Electric Bldg., for Home; limestone exterior; 5 structures; 420x75 ft.; main section 3 stories two 1-story wings, solarium, 100 bedrooms, about 50 laboratories, automatic and manual elevators, memorial hall; Lee, Smith & VanDervoort, Archts., Sixth and Franklin Sts. 1-29

### Bank and Office

Okla., Oklahoma City—Following sub-contracts let on \$3,000,000 bank and office bldg. for First National Bank & Trust Co.: Plumbing, heating and ventilating, C. Wallace Plumbing Co., Inc., 2224 Sumter St., Dallas, Tex.; granite, Cold Spring Granite Co., Cold Spring, Minn.; cut stone, Indiana Limestone Co., Bedford, Ind.; steel reinforcements, J. B. Klein Iron & Foundry Co., 1004 W. Second St.; elevators, Otis Elevator Co., 222 W. Second St., both Oklahoma City; Weary & Alford, Archts., 1923 Calumet Ave., Chicago, Ill.; Edw. Smith, Resident Archt., Amer. Natl. Bk. Bldg., Oklahoma City; Manhattan Construction Co., Contr., Manhattan Bldg., Muskogee, Okla., anchors, Ray Trimble Co., Philcade Bldg., Tulsa, Okla.; welded wire and fabric, Truscon Steel Co., Youngstown, O.; erection and removal of conc. forms, concrete Engineering Co., Franklin Bldg., Oklahoma City. 1-29

### Churches

Mo., St. Louis—Memorial Presbyterian Church, Skinker Rd. and Alexander Drive, Wm. McC. Martin, member, Bldg. Comm., let contract for \$260,000 auditorium to Murch Bros. Construction Co., Ry. Exch. Bldg.; Gothic type, native limestone; Aegerter & Bailey, Archts., Ry. Exch. Bldg. 2-5

S. C., Columbia—St. Pauls Lutheran Church let contract to Lupo & Holcombe for brick and frame Sunday school; hardwood floors, comp. roof, steam heat; J. B. Urquhart, Archt., Central Union Bldg.

### City and County

La., Pineville—City let contract at \$19,850 to Tudor & Ratcliff, Commercial Bank Bldg., Alexandria, for city hall, jail and fire station

Tex., San Antonio—Robert Chapa, care Will N. Noonan Co., Archts., Builders Exchange Bldg., erect 57x50 ft., one-story, tile, 3-story building.

Va., Hillsville—Hillsville Hardware Co. plans rebuilding store recently damaged by fire.

Va., Hillsville—W. G. Howlett Furniture Co. plans rebuilding recently burned structure.

Va., Hillsville—Nuckolls Drug Co. plans rebuilding recently burned structure.

### Theatres

Tex., Beaumont—Elmo Willard having plans prepared by Babin & Neff, Perlstein Bldg., for \$25,000 theater on Forsythe St.

Tex., Longview—Publix-East Theatres, Inc., and M. T. Flanagan erect \$150,000 fireproof theatre.

### Warehouses

Ky., Mt. Sterling—Farmers' Tobacco Warehouse Co., W. C. Clay, Pres., erect \$40,000 tobacco warehouse.

Tenn., Cleveland—Cleveland Business Men's Assn., L. L. Stanton, promoting erection of \$16,500 tobacco warehouse.

Tex., Dallas—S. C. Chenoweth, 4403 Junius St., erect \$15,000, one-story, brick warehouse, 3225 Williams St.

bldg.; rein. conc. and brick, 2 stories, 48x60 ft., built-up comp. roof; C. Errol Barron, Archt., Haas Bldg., Alexandria. 1-29

Tex., Abilene—Taylor County Bd. of Comms. let contract at \$41,800 to Suggs Construction Co., Abilene, for jail; prison equipment, Southern Prison Co., 4500 S. Presa St., San Antonio, at \$32,500; plumbing, Nance-Webb Co., at \$7475; heating, R. G. Cogdell, at \$5600; elect. work, Sun Electric Co., at \$1697, all Abilene; elevator and dumb waiter, Otis Elevator Co., 1822 Young St., Dallas, Tex., at \$4095; brick and rein. conc., steel, 4 stories and basement, 57.2 x 52.7 ft. conc. floors and foundation, built-up roof; David S. Castle Co., Alexander Bldg., and Geo. Campbell, Radford Bldg., both Abilene, architects. 1-15

### Dwellings

D. C., Washington—R. H. Sanford, Chandler Bldg., erect 10 brick dwellings, 5500 block Kansas Ave., N. W.; 2½ stories, oak floors, slate and tin roofs, hot water heat, tile baths, built-in kitchen fixtures; owner builds; drawing plans.

D. C., Washington—Frank L. Fanning, Power Bldg., has permit for \$10,000 residence, 3416 Northampton St., N. W.; brick, 2 stories.

D. C., Washington—Cooley Bros., 1405 K St., N. W., have permit for 9 brick dwellings, 5616 Kansas Ave., N. W.; 2 stories; total \$45,000.

D. C., Washington—Columbia Construction Co., 7100 Ninth St., N. W., has permit for 2 masonry dwellings, 2782-84 Military Rd.; 2 stories; total \$15,000.

D. C., Washington—H. G. Smithy Co., 1418 I St., N. W., erect 10 brick dwellings, Fourth and Madison Sts.; 2½ stories, tile baths, elect. refrigerators, hot water heat; total \$90,000; Geo. T. Santmyers, Archt., 1416 I St., N. W.; owner builds.

D. C., Washington—P. J. Grady, Investment Bldg., erect brick and frame residence, Legation St. near Nevada Ave.; 2½ stories, slate roof, tile baths, linoleum floors; C. E. Dillon, Archt., 1206 Floral St., N. W.; work by sub-contract.

Fla., Miami—Mrs. W. P. Forschner, 1537 S. W. First St., completed foundation for \$11,000 residence, 1528 S. W. First; conc. block and rein. conc., 1 story, 35x59 ft., oak and tile floors, asbestos shingle roof; furnishings, equipment, etc., \$4000; Chas. P. Nieder, Archt.; J. Nielsen Contr., 55 N. E. 46th St. 1-29

Ga., Atlanta—W. L. Herndon, Tye St., erect brick veneer residence, 732 Woodland Ave., S. E.; hardwood floors, comp. roof; day labor.

Ga., Atlanta—E. F. Hester, Euclid Ave., S. E., erect brick veneer residence, 76 Candler Rd., S. E.; 1 story, wood floors, 5 rooms and bath, comp. roof; W. F. Kinney, Contr., 1655 Flat Shoals Ave., S. E.

Ga., Atlanta—Donald McIver, 1007 Candler Bldg., erect brick veneer residence, 835 Belgrade Ave., N. E.; 1 story, comp. roof, hot air heat; day labor.

Ga., Atlanta—H. D. Landrum, 326 Inman St., S. W., erect brick veneer residence, 1576 S. Gordon St., S. W.; 1 story, hardwood floors, comp. roof; day labor.

Ga., LaGrange—Geo. S. Cobb, Jr., let contract to J. W. Melton, West Point, for face brick and field stone residence; 1 story and basement, 11 rooms, 2 baths, hardwood and tile floors, comp. or slate roof; Dennis & Dennis, Archts., 856 Mulberry St., Macon. 2-5

Ga., Thomasville—Valley Hawthorne erect residence near Paradise Park; J. J. Slapper, Contr.

La., New Orleans—H. M. Johnson, 2503 Sage St., erect 4 double dwellings, 2504-18 Clover St.; 25x76 ft., asbestos roofs; 2 garages each; total \$12,000; owner builds.

Md., Baltimore—Mrs. Bertha Letursky, 2917 Fait Ave., erect brick residence, 3008 Pine-wood Ave.; 2½ stories, 28x40 ft.; Talbott & Boschert, Contrs., Amer. Bldg.

Md., Baltimore—Jas. O. Walker, care E. Gardner Ziegler, Contr., 216 St. Paul St., laying foundation for frame residence, Beth-oven Ave. and Norwood St.; 2½ stories. 1-29

Md., Baltimore—Herman Kummelman, 5501 Fairbanks Ave., laying foundation for brick residence, 3006 Pinewood Ave.; 1½ stories, 28x40 ft.; Talbott & Boschert, Contrs., Amer. Bldg.

Md., Baltimore—Wm. Mueller, Bldr., 6204 Brooks Ave., erect 3 frame dwellings, Beaver Ave. Blvd.; 2 stories, 24x30 ft.; total \$12,000; ready for sub-bids about March 15.

Md., Baltimore—Edgar A. Levi, Bldr., 2309 Sulgrave Ave., plans 2 or 3 dwellings; architect not selected.

Md., Baltimore—Suburban Development Co., 1320 N. Charles St., erect 2 frame dwellings, Rosworth Ave.; 2 stories, about 35x25 ft.; owner builds; work probably start about March 1.

Md., Baltimore—Mrs. Florence G. Smith, care Wilson Porter Smith, Archt., Amer. Bldg., let contract to C. K. Wells, 3539 Old York Rd., for frame residence; 2½ stories, 50x32 ft.

Md., Baltimore—Milburn Bros., 2753 Edmondson Ave., erect 3 dwellings, 2753-55 Edmondson and 2749 Laurette Aves.; 1 story, 40x35 ft. and 61x24 ft., hot water heat; total \$17,000; G. E. Blatchey, Archt., 5702 Sefton Ave.; owner builds.

Md., Baltimore—J. P. Sollers, Jr., erect 2 dwellings and garages, 5815-17 Clear Spring Rd.; J. A. Young, Inc., Contr., 629 Sollers Road.

Md., Baltimore—Younger & Riddle, Windsor Mill Rd., Woodlawn, erect 2 dwellings, Howard Park Ave.; frame, 2½ stories; total \$10,000; owners build.

Md., Baltimore—Clifton K. Wells, Bldr., 3538 Old York Rd., has broken ground for group of 12 dwellings, Paddington Rd. near Springlake Way, to be called Charleston Court; Charleston, S. C., type, white painted brick, 7 to 8 rooms and 2 baths; total about \$160,000; two additional 12-dwelling groups to follow; Palmer & Lambdin, Archts., 513 N. Charles St. 1-29

Md., Baltimore—Robt. S. Zeno, 4015 Pinkney Rd., erect stucco dwelling, Reisterstown and Pinkney Rds.; 2 stories, 24 x 34 ft.; owner builds.

Md., Middle River—Robt. Holzknicht let contract to H. A. Knott, Inc., 2107 N. Charles St., Baltimore, for cinder block and stucco residence; 2½ stories, hardwood floors, slate roof, hot water heat, conc. foundations; Bernard Evander, Archt., 20 E. Lexington St., Baltimore. 1-29

Md., Ruxton, Baltimore—Shirley Carter, Central Sav. Bk. Bldg., Baltimore, erect cinder block and stucco residence; 2 stories, 46x54 ft.; Willard E. Harn, Inc., Contr., 2314 Oak St.

Mo., Kansas City—A. K. Simpson, 109 E. 67th St., start work April 1 on 9 brick, stucco and frame English type bungalows, Askin and Norledge Sts.; 1 story, 24x44 ft., white oak and linoleum floors, rock foundations, plaster board, asbestos shingle comp. roofs, \$4500 each. 2-5

Mo., St. Louis—Taylor & Carter, Nor-mandy, erect \$14,000 residence, Oakleigh subdivision; frame, 19x108 ft.; J. L. Muran & Son Construction Co., Contr., 3939 Filmore St.

Mo., University City, St. Louis—M. F. Slup-sky, R. R. No. 2, Clayton, erect \$10,000 residence, 7145 Tulane St.; brick, 2 stories, 28x50 ft., conc. block foundation, tile roof, hot water heat; E. F. Schooley, Contr., 6651 En-right St.

N. C., Durham—Alex H. Copeland erect \$17,000 residence; contracts let.

S. C., Columbia—Mrs. Nell Hair erect resi-dence; contract let.

Md., Baltimore—Milburn Realty Co., 1320 N. Charles St., erect 10 brick dwellings, 501-19 S. Tolna St., after plans by L. A. Meni-fer; 2 stories, 20.9x28 ft., steam heat; total \$25,000; owner builds. 2-5

Tex., Austin—T. J. Butler, Stephan F. Austin Hotel, erect residence addition to penthouse on top of Norwood Bldg.; \$10,000; hardwood and tile floors, comp. roof; remodel present bldg.; Giesecke & Harris, Archts., Norwood Bldg.; J. M. Odom, Contr., 307 W. Seventh St.

Tex., Fort Worth—N. E. Ross, 1400 Wash-ington Terrace, let contract to Bundock Building Co. for \$15,000 brick veneer resi-dence; 2 stories, slate roof; L. G. Bundock, Archt., 1813 Eighth Ave.; foundation in. 1-29

### Government and State

La., Baton Rouge—Dudley Bar Co., Brown-Marx Bldg., Birmingham, Ala., has contract for 500 tons rein. conc. for \$5,000,000 Louisi-an State Capitol; Weiss, Dreyfous & Sei-ferth, Archts., Maison Blanche Bldg., New Orleans, La.; George A. Fuller Co., Contr., Fuller Bldg., New York, and Munsey Bldg., Washington, D. C. 1-29

Mo., Aurora—Treasury Dept., Jas. A. Wet-more, Act. Supvg. Archt., Washington, D. C., let contract at \$58,150 to Rosen & Fischel, Inc., 11 S. LaSalle St., Chicago, Ill., for post office. 2-5

Mo., West Plains—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$52,447 to Rosen & Fischel, Inc., 11 S. LaSalle St., Chicago, Ill., for post office; brick stone trim, 4 stone columns, 56.9 x 88.3 ft., tile, conc. and hardwood floors, fireproof vaults, basement. 2-5

S. C., Dillon—Treasury Dept., Jas. A. Wet-more, Act. Supvg. Archt., Washington, D. C., let contract at \$43,595 to Algernon Blair, First Natl. Bk. Bldg., Montgomery, Ala., for post office; rein. conc., brick and tile, lime-stone, granite, stucco, marble, tile, terrazzo, 1 story and basement, 64x56 ft. and 21x27 ft. slate and comp. roof, hollow metal, gyp-sum block, vault doors. 2-5

Tex., Sugarland—Union Iron Works, Hous-ton, has contract at \$8420 for 2 boilers for Central State Farm Prison; 50,000-gal. ele-vated water tank to Chicago Bridge and Iron Works, 37 W. Van Buren St., Chicago, Ill., at \$3775; refrigerator doors and insulation, Southern Engine & Pump Co., 615 Washing-ton St., Houston, at \$2153, and deep well pump at \$1490; Texas Prison Board, Austin, rejected bids for mechanical equipment, pip-ing, fire equipment and gasoline and oil tanks; Giesecke & Harris, Archts., Norwood Bldg., Austin; Prof. F. E. Giesecke, Consult-ant, College Station, Tex.; Lloyd D. Royer, Const. Mech. Engr., Smith-Young Tower, San Antonio. 2-5

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, let contract at \$23,410 to U. A. Underwood, Inc., Murchison Bldg., Wilmington, N. C., for parachute bldg., paint, oil and dope house, Langley Field. 2-5

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, Capt. Geo. H. Schumacher, let contract at \$560,617 to Bat-son-Cook Co., Inc., West Point, Ga., for 4 barrack bldgs., Langley Field, one accom-modate 163, two 200 and one 330, 2 stories and basement, 208x91 ft., 146.9x101.10 ft. and 340x85.10 ft., conc. floors and founda-tions, slate and tile roofs, conc. frames, face brick. 2-5

### Hospitals, Sanitariums, Etc.

Md., Perry Point—United States Veterans Bureau, Arlington Bldg., Washington, D. C., let contract for \$300,000 N. P. convalescent bldg., including walks and grading, U. S. Veterans Hospital, to Adams Construction Co., 217 Jackson Court, Chicago, Ill.; rein. conc., brick, hollow tile, cast stone, marble work, floor and wall tile, linoleum floors, rubber tile, compressed asphalt tile, terrazzo base, iron work, steel sash, steel stairs with slate treads, slate and built-up roofing, steel clothing bins, roof ventilators, metal lathing, metal weatherstrips, insect screens, elect. elevator; outside sewer, water, steam and elect. service connections. 1-29

Miss., Gulfport—Additional sub-contracts let on additional bldgs., utilities and altera-tions, U. S. Veterans Hospital, for which Henry B. Ryan Co., 500 N. Dearborn St., Chicago, Ill., has contract at \$405,800; Mill-work, McPhillips Manufacturing Co., foot of Laurence St., Mobile, Ala.; elect. work, Bunn Electric Engineering Co., Inc., 742 St. Charles St., New Orleans, La.; marble, tile, etc., Steward-Mellon Co., 535 E. Bay St., Jackson-ville, Fla.; steel sash, David Lupton's Sons Co., 333 N. Michigan Ave.; plastering, Tobin

Plastering Co., 6415 Ravenwood Ave.; acous-tical treatment, Thomas Moulding Acoustical Engineering Co., 165 W. Wacker Drive; rein. steel, Kalman Steel Co., Inc., 410 N. Michi-gan Ave.; steel shelving, Lyon Metal Prod-ucts, Inc., 222 N. Bank Drive, all Chicago, Ill.; orna. iron, Birmingham Ornamental Iron Co., Inc., 417 W. Pinson St., Birmingham, Ala.; roofing, sheet metal and ventilating work, Hamilton Bros. & Rice, Gulfport; cast stone, Hydro Stone Co., Memphis, Tenn.; finishing hardware, Lockwood Co., 16 Reade St., New York. 1-15

Tenn., Memphis—Jones & Laughlin Steel Corp., Pittsburgh, Pa., has contract for 230 tons rein. conc. for \$300,000 nurses' home, etc., U. S. Veterans Hospital; Algernon Blair, Contr., First Natl. Bk. Bldg., Mont-gomery, Ala. 1-8

### Hotels and Apartments

D. C., Washington—Baer & Scholz, Bldrs., Edmunds Bldg., applied for permit for \$350,000, 12-story, conc. and brick store and apartment building, 2150 Pennsylvania Ave., N. W.; 136 apartments; Robert O. Scholz, Archt.

D. C., Washington—L. P. Handy, Wood-ward Bldg., announced that plans are being drawn for 8-story, 160-apartment, 16th St., N. W.; start work within next month; David L. Stern, Archt.-Bldr., 1412 Eye St., N. W.

Fla., Miami Beach—J. Albert, Contr., 735 Third St., start work within next week on 2-story, rein. conc., conc. block and stucco, 4-apartment, Pennsylvania Ave. and 10th St.; owner and architect not selected.

Fla., Miami Beach—Ignatz Wohl, 536 Tenth St., erect \$15,000, 32x64 ft., 4-apartment; C. B. Schoeppl, Archt., 2382 N. Alton Road, Miami; J. Albert, Gen. Contr., 735 Third St.

N. C., Charlotte—F. J. Whitner, 305 Circle Ave., erect 2-story, brick veneer, 8-apart-ment on Providence Road; comp. roof; J. E. Templeton, Contr., 1001 N. Graham St.

Okla., Norman—Aldridge Hotel Co., We-woka, let contract to Barbour & Short, Nor-man, for \$250,000, 6-story, rein. conc., 80-room hotel; Guy A. Reid, Archt., Oklahoma Savings & Loan Bldg., Oklahoma City. 11-20

Okla., Tulsa—John Gosling soon start work on \$35,000, 2-story and basement, brick ve-neer, 8-apartment; owner, Archt.-Bldr.

Tex., Fort Worth—Mrs. Ruth J. Cooper, 1508 W. Fifth St., erect \$13,500, 2-story, 37x56 ft., brick veneer, 4-apartment, Monticello and W. Fifth Sts.; J. R. Bell, Contr., 3118 Green St.

Tex., Houston—Herman Estate has permit for \$125,000 improvements to Tel-Electric Bldg., Preston Ave. and Smith St., to be occupied by Brazos Hotel; C. K. Ennis, Contr., 3219½ Louisiana St. 1-8

Va., Ocean View, Norfolk—Paragon Corp. has permit for \$50,000, 24-apartment, 501-03 Ocean View Ave.; Johnson Construction Co., Inc., Contr., Law Bldg., Norfolk.

### Miscellaneous

D. C., Washington—Speiden & Speiden, Archts., 1311 H St., preparing sketches for \$250,000 Center Market, 5th St. and Florida Ave., N. E.; owner's name withheld; H. Her-furth, Jr., 1406 G St., prob. builder; 3 stories, 230x340 ft., 150 units, brick and conc.; Mr. Herfurth advises proposition in tentative stage.

La., New Orleans—New Orleans Motor Speedway Co., Frank Bryson, Canal Bank Bldg., and associates let contract to George L. Hill, Baton Rouge, for grandstand in connection with automobile race track ad-joining Menefee Air Field in St. Bernard Parish near New Orleans; entire tract of 100 acres will be landscaped and fenced; total cost \$400,000.

Md., Baltimore—Safe Deposit & Trust Co., South St., let contract to J. Geo. Bensei Co., 3005 Shannon Drive, for alterations to lunch room, 423 N. Howard St., for Bickford's Inc., Lessee; Wm. J. Degenhardt, Archt., 1305 N. Charles St. 12-25

### Railway Stations, Sheds, Etc.

Ga., Atlanta—Atlanta & West Point Ry., S. R. Young, Asst. Ch. Engr., Hunter St., S. E., let contract to Gates Brothers, College Park, for \$15,000, one-story, 24x100 ft., brick freight depot on Fair St.; tile roof, conc. floors. 2-5

### Schools

D. C., Washington—Dietrich Brothers, 220 E. Pleasant St., Baltimore, have contract for 140 tons struc. steel for \$200,000 Charles Young Platoon School for which Graham Construction Co., Washington Bldg., Wash-ington, has general contract; A. L. Harris, Municipal Archt. 1-8



D. C., Washington—Barber & Ross, Inc., 11th and G Sts., N. W., Washington, have contract for 100 tons struc. steel and Truscon Steel Co., Youngstown, O., for 20 tons rein. bars for 4-room addition and alterations to Congress Heights School for which Fidelity Construction Co., 1218 Randolph St., N. E., has general contract at \$138,995; A. L. Harris, Municipal Archt. 1-29

D. C., Washington—Henry A. Hitner's Sons, Gaul and Huntington Sts., Philadelphia, have contract for 100 tons struc. steel and rein. bars and Truscon Steel Co., Youngstown, Ohio, for 25 tons rein. bars for Northampton Street School for which Chas. S. Barnett, Inc., 47th St. and Springfield Ave., Philadelphia, has general contract at \$103,390; A. L. Harris, Municipal Archt. 1-1

Md., Baltimore—Bibb Heating & Equipment Co., 1024 Cathedral St., has contract for heating, Roland F. Schaeffer, 2301 Madison St., for plumbing, and Electromechanical Co., Franklin and Calvert Sts., electric work for addition to colored elementary school No. 122, Preston St. between Druid Hill and Pennsylvania Aves., for which Thomas Mul-lan, 3945 Greenmount Ave., has general contract at \$127,526; Flournoy & Flournoy, Archts., 334 St. Paul St.; Henry Adams, Inc., Mech. Engrs., Calvert Bldg.; Henry Massart, Struc. Engr., 328 N. Charles St. 2-5

N. C., High Point—Bd. of School Commrs., T. W. Andrews, Supt., let contract at \$261,850 to R. K. Stewart & Son, S. Hamilton St., High Point, for 2- and 3-story and basement, rein. conc., struc. steel, brick and hollow tile junior high school; plumbing, \$13,965, Piedmont Plumbing & Heating Co., Commercial Bank and Trust Bldg., Gastonia; heating, \$41,575, Crutchfield-Sullivan Co., 311 S. Green St., Greensboro; electric, \$10,995, Ever-Ready Electric Co. N. Trade St., Winston-Salem; Harry Barton, Archt., Jefferson Bldg., Greensboro. 1-29

Okla., Ponca City—Bd. of Education, W. W. Isles, Supt., let contract at \$80,990 to Richard Sherbon for one-story, 205x157 ft., brick and conc. Roosevelt School; cast stone, comp. linoleum and conc. floors, asphalt built-up roof, marble, incinerator, hollow tile, ventilators; heating, Conner Sheet Metal Works; electric, Osage Electric Co.; plumbing, W. J. Casemore Co.; roofing, Casey Roofing Co., brick work, Harry Mowder; painting, Clint Starr; G. J. Cannon, Archt., Community Bldg. See Want Section—Building Material and Equipment. 1-15

Tenn., Cookeville—Following sub-contracts awarded on 2-story and basement, rein. conc., brick, stone trim home economics building at Tennessee Polytechnic Institute (excavation completed) for which Foster & Creighton Co., Fourth and First Bldg., Nashville, have general contract at \$162,830: Natco standard grade salt glazed Vitritile, T. L. Herbert & Son, 174 Third Ave., N.; lath and plaster, A. T. Kanady, 117 Fifth Ave., N.; setting cut stone, Nashville Stone Setting Co., Fourth and First Bldg.; marble, tile and terrazzo, H. E. Farmer Co., 801 Fifth Ave., N.; glass and glazing, Southern Door & Glass Co., 218 Second Ave., N.; steel sash, Builders Specialty Co., 1814 Church St.; partition tile, T. L. Herbert & Sons; conc. aggregates, Cumberland River Sand Co., 10 Fatherland St., all Nashville; millwork, sash and doors, O'Neill Lumber & Box Manufacturing Co., Rome, Ga.; excavation, hauling and drayage work, Pippin Bros., Double Springs, Tenn.; crushed stone aggregate, Pointer Bros., Algood; misc. iron work, Price-Evans Foundry Corp., Anderson Ave.; face brick, Key-James Brick Co., Alton Park, both Chattanooga; struc. steel, rein. steel, Carolina Steel & Iron Co., S. Elm St., ext., Greensboro, N. C.; cut stone work, Russellville Cut Stone Co., Russellville, Ala.; roof and sheet metal work, R. H. Vandevelde & Co., Dyersburg, Tenn.; brick work, Van Maynard & Co., Cookeville; cement, Marquette Cement Manufacturing Co., U. & P. Bank Bldg., Memphis; Emmons Woolwine, Archt., Ellendale Ave., Nashville. 11-13

Tex., Mercedes—Mercedes Ind. School Dist., R. H. Kern, Pres., Bd. of Trustees, let contract at \$82,495 to R. W. Briggs & Co., Pharr, for 2-story, brick, tile, rein. conc., stone, fireproof high school; cement, tile, terrazzo, wood and linoleum floors; electric wiring, \$5362, Mercedes Electric Co.; plumbing, \$8878, A. J. Monier & Co., 1446 N. Flores St., San Antonio; R. Newell Waters, Archt., Weslaco; W. E. Simpson Co., Engrs., Milam Bldg., San Antonio. 2-5

Tex., Palestine—Bd. of Education let contract to Atlas Construction Co. for \$25,000, one-story, 142x75 ft., brick and conc. school; tile roof, pine floors; Thos. S. Maffitt, Archt., 510 N. Sycamore St. 1-8

### Stores

D. C., Washington—Peoples Life Insurance Co., 14th and H Sts., N. W., let contract to

W. P. Lipsecomb Co., 1406 G St., N. W., for improvements to building to be leased to Louis K. Liggett Co.; W. Thomas Williams, Company Archt., 41 E. 42nd St., New York; Fred B. Pyle, Asso. Archt., Evans Bldg., Washington. 1-29

La., New Orleans—E. W. Nagel, 607 S. Solomon St., ready for sub-bids on one-story stone tile store, Washington Ave. and Dorgenois Sts.; J. W. Guynes, 620 S. Solomon St., handling job for Mr. Nagel.

La., Shreveport—S. H. Bollinger, City Bank Bldg., let contract to H. C. Bellows, Ricou-Brewster Bldg., for one-story, brick store, Greenwood Road and Carrie Sts.; E. A. George, Archt.

Md., Dundalk, Baltimore—E. Eyring & Sons, 808 S. Conkling St., Baltimore, soon ready for sub-bids for 1-story brick store; owner, Archt.-Bldr. 11-20

Miss., Columbus—Mrs. S. B. Street started work on repairs to 3-story Kaufman Brothers store building on S. Market St., recently damaged by fire; D. S. McClanahan & Sons, Contrs.

Okla., Blackwell—Ray K. Hockaday, Hutcheson, Kans., started work on improvements to building at 116-18 N. Main St.; L. C. Burr & Co., Lessee, 430 W. Randolph St., Chicago.

Okla., Oklahoma City—Schwab & Co. started work on \$13,000 addition to building, 1101 Linwood Ave.; 50x140 ft., brick; R. H. Dobbins Construction Co., Bldr., 513 N. Indiana St.

Tenn., Chattanooga—Pizitz-Smolian Department Store, E. R. Pickett, Gen. Mgr., 826 Market St., start work soon on \$15,000 improvements to store to include addition of 6000 sq. ft. floor space, new front, new fixtures and changing departmental layout; Jacob Daneman, Contr.

Tex., Corpus Christi—C. J. Horne, 337 S. Carancahua St., let contract at \$19,625 to Wood Sherman, Country Club Place, for three additions to store and apartment; brick, tile and stucco; marble or cast stone base; Wm. J. Festfall, Archt., Nixon Bldg. 1-22

Tex., Fort Worth—Dr. W. E. Chilton, Dan Waggoner Bldg., let contract at \$18,985 to Wm. D. Southwell, 605 E. Second St., for brick and tile building, 608 Houston St.; built-up roof.

### THE CLASSIFICATIONS IN THIS SECTION ARE:

## WANT SECTION

#### Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

#### Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

#### Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

#### Machinery and Supplies

**Air Compressor.**—W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on used belt driven or motor driven air compressor, 6x7 to 8x9.

**Air Compressor and Engine.**—Battery Machinery Co., Rome, Ga.—Wants prices and data on used belt driven air compressor, 1000 cu. ft. capacity, good condition; also engine for operating same.

**Canning Plant Machinery and Equipment.**—Jas. P. Allen, St. Joseph, La.—Wants prices from manufacturers of canning plant machinery and equipment.

**Mayfield Feed and Grain Co., P. O. Box 145, Dalhart, Tex.**—Wants prices of following:

- (1) Conduits
- (2) Wire
- (3) Switches (Electrical).

**Paving Plant.**—S. W. Shoemaker & Son (Building Construction), Payne-Shoemaker Bldg., 240 N. Third St., Harrisburg, Pa.—Wants prices and data on used asphalt street paving plant of 1000 yd. capacity.

**W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.**—Wants prices and data on following:

- (1) Air Compressor—200 to 300 cu. ft. per min., belt or motor driven
- (2) Pump (Centrifugal)—500 g. p. m., motor driven, 220 or 2300 volt, a. c. motor, 130 ft. head.

**Rhoades & Sons, Engrs., 416 Main St., Sarasota, Fla.**—Wants prices and data on following:

- (1) Boilers—2, 200 h. p., horizontal oil burners, 150 lb. w. p.
- (2) Generators—2, 75 kw., a. c., direct connected to 2 reciprocating engines
- (3) Pumps—3 boiler feed, 500 gal. per hour; 2 water pumps, 2500 gal. per hour with pressure regulating throttle valves
- (4) Tanks—2500 gal., 100 lb. working pressure, water storage.

**S. E. Hovine, Burkittsville, Md.**—Wants illustrated catalogs, prices and other data on following:

- (1) Pumps and Pumping Machinery—for artesian wells
- (2) Well Drilling Machinery.

**Sandblast Machine.**—F. B. Cole, Box 563, Newnan, Ga.—Wants prices and data on new or used sandblast machine for lettering monuments, good condition.

**W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.**—Wants prices and data on following:

- (1) Alligator Shear—No. 3, Doelger & Kirs-ten or equal
- (2) Mushroom Magnet—44 in. or larger.

**Water Wheels and Generators.**—Stephen Carver, 174 E. 71st St., Portland, Ore.—Wants prices and data on 2 water wheels and generators, 20-ft. head, 400 and 500 second cu. yd., a. c., 2300 volts.

**Vibrating Screen.**—Lillington Stone Co., Lillington, N. C.—Wants prices and data on used, double deck, belt driven vibrating screen.

#### Miscellaneous

**J. B. Southern, P. O. Box 1501, Greenville, S. C.**—has devised a coin operated amusement machine—Wants prices and data from firms in position to perfect and manufacture mechanical parts.

**Telephone or Buzzer System.**—T. K. Leedy, Mgr., Hotel Mullens, Mullens, W. Va.—Wants prices and data on independent telephone or buzzer system for 36-room hotel.

#### Building Material and Equipment

**Rev. Org. Foster, Pastor, Mine City Baptist Church, Ducktown, Tenn.**—wants prices on following for \$9000 church:

- Flooring**—hardwood
- Plaster Board**—sheetrock
- Roofing**—asphalt shingle.
- Rev. Sam L. Jones, Box 85, Grundy, Va.**—wants prices on following for \$10,000 church rebuilding:
- Heating Plant**—steam or hot water
- Memorial Windows**
- Stones (window sill)**—24 stone, 14x8 in., for 4 to 6-ft. sills.

**Richard Sherbon, Gen. Contr., Ponca City, Okla.**—wants sub-bids on millwork, blackboards (slate), steel, lockers for \$100,000 school.

Wilson Co., Box 391, Charlottesville, Va., estimating on bachelor officers' quarters, Fort Monroe, Va., wants quotations on following by Feb. 28:

Brick  
Crushed Stone  
Dampproofing  
Electrical Work  
Elevator—electric  
Finishing Hardware  
Glazing  
Gravel  
Lathing and Plastering  
Linoleum Flooring  
Marble and Tile Work  
Painting  
Plumbing and Heating  
Roofing and Sheet Metal Work  
Sand  
Steel and Iron Work  
Stucco Work  
Terrazzo Work  
Waterproofing.

#### Bids Asked

**Aluminumware.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 18 for 1200 water pitchers and 6500 soup tureens, delivery Philadelphia, Pa.

**Auto Transformed.**—U. S. Engr. Office, Huntington, W. Va.—Bids Feb. 16 for auto transformers for Marietta repair station.

**Band Resaw and Woodworking Machines.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Feb. 24 for motor driven vertical band resaw machine and for motor driven woodworking machine.

**Bridges.**—State of Georgia—Bids for 8 bridges. See Construction News—Roads, Streets and Paving.

**Buckles, etc.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 19 for buckles, etc., delivery Philadelphia, Pa.

**Building Material.**—U. S. Engr. Office, Huntington, W. Va.—Bids Feb. 16 for building material for office building at Marmet Lock site, Kanawha River.

**Building and Pier.**—Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids Mar. 4 for refacing pier 7 and constructing quarters for tugs' crews at naval operating base, Hampton Roads, Norfolk, Va.

**Cable.**—Office Ch. of Engrs., Washington, D. C.—Bids Feb. 19 for 5000 ft. rubber insulated lead covered cable and 5 reels.

**Cafeteria Equipment.**—Comms., D. C., Washington, D. C.—Bids Feb. 27 for cafeteria equipment.

**Cement.**—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Feb. 18 for Portland cement, Sch. 2629.

**China ware.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 20 for china ware, delivery Philadelphia, Pa.

**Dredging.**—U. S. Engr. Office, Custom House, Baltimore, Md.—Bids Feb. 20 for dredging, mouth of Nandua Creek, Va., Occoanock Creek, Va., and waterway, Tangier Sound to Ewell (Smith Island, Md.), and in Elk River, Md. See Construction News—Drainage, Dredging and Irrigation.

**Drilling Well.**—U. S. Engr. Office, Huntington, W. Va.—Bids Feb. 16 for drilling well.

**Folding Machine.**—Contracting Officer, Q. M. Corps, Fort Benning, Ga.—Bids Feb. 19 for motor driven folding machine.

**Frames (Cap).**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 26 for 13,200 cap frames, delivery Philadelphia, Pa.

**Granite Facing.**—Office of Executive Officer, Arlington Memorial Bridge Comsn., Navy Bldg., Washington, D. C.—Bids Mar. 4 for 61,500 cu. ft. cut granite for memorial entrance of bridge project. See Construction News—Bridges, Culverts and Viaducts.

**Lathes (Turret and Tool-room).**—See Miscellaneous Machinery and Tools.

**Levee.**—Bd. of Comms., Lake Borgne Basin Levee Dist., Fred Ahrens, Sec., Canal Bldg., New Orleans, La.—Bids Mar. 10 for 300,000 cu. yd. levee, Jackson Levee, St. Bernard Parish.

**Levee.**—U. S. Engr. Office, P. O. Box 667, Vicksburg, Miss.—Bids Feb. 19 for 363,500 cu. yd. earthwork. See Construction News—Miscellaneous Construction.

**Micrometers.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 17 for micrometers, delivery Philadelphia, Pa.

**Milling Machine.**—See Miscellaneous Machinery and Tools.

**Miscellaneous Machinery and Tools.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Feb. 24 for motor driven tool-room lathe, motor driven universal milling machine, motor driven turret lathes; bids Mar. 3 for motor driven screw machine, motor driven steel squaring sheer machine and filing machine.

**Miscellaneous Supplies.**—Gen. Supply Committee, Washington, D. C.—Bids Mar. 4 for supplies for next fiscal year, including athletic supplies and playground equipment, engraving, printing and lithographic supplies, incandescent gas lamp supplies, electric, engineering and plumbing supplies, brushes, glass lubricants, fuel oils, paints, colors, painters' supplies, floor machines, and vacuum cleaners, floor wax, polish, soap dispensers and household supplies, hardware, tools, ferrous and non-ferrous metals, brief cases, hand bags, leather goods and shoe findings, photographic supplies, meteorological apparatus, microscopes, surveying instruments, laboratory apparatus, hospital appliances, surgical instruments, furniture, computing, addressing, dictating, duplicating, folding, sealing machines, dry goods, wearing apparel, etc.

**Paints.**—Quartermaster, Fort Bliss, Tex.—Bids Feb. 17 for 300 lb. white paint, 300 gal. turpentine substitute, 200 gal. linseed oil, 50 gal. interior varnish and 50 gal. liquid drier.

**Paint.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 16 for 900 gal. lithopone paint, delivery Quantico, Va.

**Piles.**—U. S. Engr. Office, Kansas City, Mo.—Bids Feb. 16 for 6000 round wood piles.

**Pipe, etc.**—Pur. and Contracting Officer, Quartermaster Corps, Langley Field, Hampton, Va.—Bids Feb. 17 for brass pipe, elbows, nipples, crossovers, tees, plugs and unions.

**Pinion Gears.**—U. S. Engr. Office, Huntington, W. Va.—Bids Feb. 20 for pinion gears and clamps for gate engines for dams on Ohio River.

**Pumping Machinery.**—U. S. Engr. Office, Memphis, Tenn.—Bids Feb. 16 for 32-in. single suction centrifugal dredging pump and spares.

**Pumping Machinery.**—U. S. Engr. Office, Memphis, Tenn.—Bids Feb. 16 for steam turbine and reduction gear.

**Roads.**—State of Georgia—Bids for 8 roads. See Construction News—Roads, Streets and Paving.

**Roads.**—Parris Island, S. C. See Construction News—Roads, Streets and Paving.

**Roads.**—Quantico, Va. See Construction News—Roads, Streets and Paving.

**Screw Machine.**—See Miscellaneous Machinery and Tools.

**Sharpener and Mowers.**—Quartermaster, Camp Knox, Ky.—Bids Feb. 23 for sharpener with reconditioner for lawn mowers and 12 self-sharpening type lawn mowers.

**Squaring Sheer Machine.**—See Miscellaneous Machinery and Tools.

**Stationery.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 24 for stationery, delivery Philadelphia, Pa.

**Stationery, etc.**—Gen. Supply Committee, Washington, D. C.—Bids Feb. 18 for stationery, paper, paper articles and school supplies required during period Apr. 1 to June 30, 1931.

**Street.**—Dallas, Tex. See Construction News—Roads, Streets and Paving.

**Streets.**—Baltimore, Md. See Construction News—Roads, Streets and Paving.

**Street.**—Alexandria, La. See Construction News—Roads, Streets and Paving.

**Tank.**—Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids Feb. 25 for fuel oil tank for Hampton Roads, Norfolk, Va.

**Tar Felt.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 17 for 1200 rolls coal tar saturated tar felt, delivery Philadelphia, Pa.

**Telescopes.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 18 for 150 telescopes, delivery Philadelphia, Pa.

**Tender and Machinery.**—Bureau of Light-houses, Washington, D. C.—Bids Mar. 9 for constructing tender of Violet class and machinery.

**Timber (White Oak).**—U. S. Engr. Office, Huntington, W. Va.—Bids Feb. 19 for white oak timber.

**Timbers.**—Office of Ch. of Engrs., Washington, D. C.—Bids Feb. 20 for timbers, planks, dressed boards and lumber.

**Tires and Tubes.**—State Bd. of Control, Austin, Tex.—Bids Feb. 26 for pneumatic and solid automobile and truck tires and tubes for all 18 divisions of Highway Dept. for 1 year.

**Trailer.**—Comms., D. C., Washington, D. C.—Bids Feb. 24 for trailer, 4 wheel, heavy duty.

**Trumpets and Drumheads.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 17 for 1200 trumpets and 700 drumheads, delivery Philadelphia, Pa.

**Turbo-Alternator.**—Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids Feb. 18 for 2500-kw. turbo-alternator, with direct connected exciter, at navy yard, Philadelphia, Pa.

**Water Softener.**—Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids Feb. 25 for water softening plant, navy yard, Washington.

## Trade Literature

**Insulated Aluminum Wire.**—After an extensive period of study by its research engineering and manufacturing departments, in cooperation with the Aluminum Company of America, Pittsburgh, the General Cable Corporation, New York, recently announced a new product—Alectral—insulated aluminum wires and cables. The product is described in a bulletin issued by the Cable Corporation, in which some of its salient features are outlined and important applications are illustrated. Information regarding Alectral wires may be obtained from any sales office of the company. Southern offices are in Atlanta, Birmingham, Charlotte, Dallas, Kansas City, St. Louis and Washington, D. C.

**Stainless Steel Wire Rope.**—In collaboration with authorities on stainless steel, research engineers of the Hazard Wire Rope Company, Wilkes-Barre, Pa., have demonstrated the practicability of wire rope made from chrome nickel alloy steel, according to the company, and have made actual operating tests. This development permits the application of wire rope to certain types of machinery where heretofore it could not be used because of corrosive conditions. Hazard "Korodless" wire rope is described in a folder issued by the company.

**Steam Jet Air Ejectors.**—The Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., has issued folder D. M. F. 5299, devoted to the use of steam jet air ejectors in industries using vacuum processes. The folder discusses two-stage condensing types with either surface type intermediate, and after condensers or jet type intermediate condensers only. It also deals with single stage condensing or non-condensing ejectors and compound ejectors on jet intermediate and after condensers.

**Group Washing Fixtures.**—A new catalog, "Fixtures for Group Washing," has been issued by the Bradley Washfountain Co., Milwaukee, Wis. It presents the complete 1931 line of Bradley Washfountain "5-In-A-Group" showers, drinking fountains and playground showers, in addition to data on opportunities for space saving and cost reduction economies afforded by present day washrooms.

**Utilities Magazine.**—Electro Topics, a publication of the Tennessee Electric Power Company, Chattanooga, has been issued for January. The magazine presents subject matter of interest to employees of the company and others and is fully illustrated.

(Continued on page 62)



# LEADITE

Trade Mark Registered U.S. Pat. Office

These 14 Users alone have laid  
1,836.83 Miles of Water Mains  
—jointed with LEADITE

	Miles	
Crumley, Jones & Crumley Company	200.00	4-in. to 36-in.
Dayton, Ohio	128.25	4-in. to 84-in.
Flint, Michigan	237.41	4-in. to 30-in.
Ft. Worth, Texas	192.85	4-in. to 36-in.
Indianapolis Water Company	150.00	6-in. to 36-in.
Louisville Water Company	165.82	Up to and including 48-in.
New Bedford, Mass.	25.00	4-in. to 48-in.
Oklahoma City, Oklahoma	94.50	6-in. to 30-in.
Pennsylvania Water Company	110.00	4-in. to 42-in.
Philadelphia Suburban Water Co.	230.00	Up to and including 24-in.
St. Louis, Missouri	90.00	Up to and including 36-in.
Standard Paving Co., Inc. of Tulsa, Okla.	26.00	24-in. to 36-in. incl.
City of Tulsa, Oklahoma	37.00	6-in. to 36-in.
Washington Suburban San. Dist.	150.00	Up to and including 24-in.

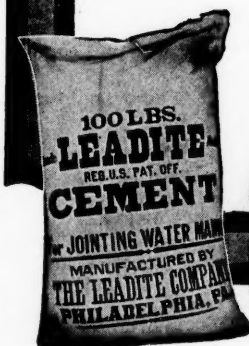
When it is considered that this large quantity of LEADITE Jointed Bell and Spigot Water Mains was laid by only 14 Users—some idea may be had of the huge total mileage laid by “all” LEADITE Users.

*The Pioneer self-caulking material for c. i. pipe.  
Tested and used for over 30 years.  
Saves at least 75%*

THE LEADITE COMPANY

Land Title Building

Philadelphia, Pa.



## No Caulking



(Continued from page 60)

**Highway Culverts.**—A booklet on highway culverts has been issued by the U. S. Cast Iron Pipe & Foundry Company, Burlington, N. J., with Southern sales offices at Dallas, Birmingham and Kansas City. The purpose of the publication as outlined in an introduction is not to stress the strength and durability of cast iron culverts, as these qualities are well known, but to emphasize the fact that cast iron culverts are suitable for use under costly and permanent roads.

**Office Management Award.**—The National Office Management Association, H. C. Penicke, secretary, Indianapolis, is distributing a folder announcing terms and conditions of the annual Leffingwell Medal Award for outstanding accomplishment in the field of office management. W. H. Leffingwell, president of the association, is the donor of the award. Material offered for the competition must be in the hands of the Board of Award by March 1, 1931, and the first award will be made at the annual meeting of the Association June 4-6, 1931.

**Tank Heaters.**—Instantaneous and storage tank heaters are described and illustrated in a booklet issued by the Fuel Economy Company, Inc., Richmond, Va., manufacturers and engineers. "Feco" heaters are featured in types with one, two and three heating elements, while space is devoted also to instantaneous or Booster heaters with one or two heating elements. Stock sizes of "Feco" storage tanks range from 500 to 5000 gallons.

**Dual-Drive Exciter Sets.**—The Westinghouse Electric & Manufacturing Company has issued Leaflet 20477, illustrating and describing the Westinghouse dual-drive exciter sets from 25 to 500 kw. capacities. The leaflet covers the construction of the motor, turbine and generator and presents a comprehensive idea of the construction and operation of the unit.

**Road Machinery.**—The Austin-Western Road Machinery Co., Chicago, has issued bulletin W-31-A illustrating and describing Western rotary fresnos Nos. 15, 20, 30 and 60 and bulletin W-31-B, devoted to the new Western No. 6 elevating grader. Both machines are made by the Western Wheeled Scraper Company, Aurora, Ill., and sold in the United States by the Austin-Western organization.

#### Northwest Representative

The Northwest Engineering Co., Chicago, is now represented in Arkansas, Mississippi and West Tennessee by the Choctaw Culvert & Machinery Co., Little Rock, Ark., and Memphis, Tenn., for the sale of Northwest Engineering products, including gasoline oil-burning and electric-powered shovels, cranes and draglines.

#### Consolidating Manufacturing Operations

The Industrial Brownhoist Corporation, Cleveland, O., plans to consolidate the Cleveland and Bay City manufacturing operations of the corporation at the Bay City plant, retaining at Cleveland the general offices, including administrative, financial, sales, purchasing, accounting and part of the engineering department. Six to eight months will be required for the gradual transfer of operations.

**Reinforcement Bars.**—The Concrete Reinforcing Steel Institute, Chicago, is distributing A. S. T. M. specification A 15-30, devoted to billet steel concrete reinforcement bars. It has been reprinted for insertion in the Institute Handbook.

**Tool and Shop Equipment.**—Joseph T. Ryerson & Son, Inc., Chicago, have issued a new Tool and Shop Equipment Catalog No. 30, which deals with many types of tools and portable machinery used in the metal working field. The publication is devoted entirely to equipment for manufacturers; job shops and contractors.

**Welded Steel Construction.**—A bulletin devoted to Lukenweld Construction has been issued by Lukenweld, Inc., a division of the Lukens Steel Company, Coatesville, Pa. Lukenweld Construction, as described in the publication, is the "fabricated product obtained by welding Lukens Welding Quality Rolled Steel according to insurance welding practice," and is said to be an efficient and economical method of manufacturing units, such as housings, bases, beds, gear cases, etc. The bulletin presents descriptive data and illustrates the product as adapted to various uses.

## INDUSTRIAL NEWS

#### Acquires McClintic-Marshall

All fabricating properties of the McClintic-Marshall Corporation, Pittsburgh, Pa., have been acquired by the Bethlehem Steel Corporation, Bethlehem, Pa., at a consideration of approximately \$20,500,000. In conjunction with its agreement to acquire the property, the Bethlehem Steel Corporation announces that G. H. Blakeley will become president of the McClintic-Marshall Corporation. Mr. Blakeley is a graduate of Rutgers University and has been vice-president of the Bethlehem Steel Company since 1927, in charge of structural steel operations. The McClintic-Marshall Corporation will be operated as a subsidiary of the Bethlehem Steel Corporation, its plants being located in or near Rankin, Leetsdale, Carnegie and Pottstown, Pa.; Chicago, San Francisco, Los Angeles and Buffalo. According to E. G. Grace, president of Bethlehem Steel Corporation, these plants will provide Bethlehem an important additional outlet for its structural and other steel products.

#### Will Increase Production and Sell Own Products

The Universal Crusher Company, Cedar Rapids, Iowa, manufacturers of a popular line of stone and gravel crushers are making a change in their distribution policy. All equipment sales will now be handled direct with the user or through local jobbers. Satisfactory dealer connections which have been established for many years will be retained and new connections made in all other sections of the country. Stocks that have been carried at strategic points will be transferred to the company's own agents. The Universal lines which have been on the market for over a quarter of a century will have many additions and a diversified line of crushing, conveying, screening, washing and loading equipment made immediately available to the trade. Buildings are already under construction to take care of the increased need for engineering and shop facilities.

#### Coal, Oil and Timber Lands

For the purpose of settling an estate, W. R. Crawley, trustee, Liberty Bank & Trust Co., Louisville, Ky., will offer at auction on March 2 in Greenville, Ky., 2045 acres of coal, oil and timber lands in Muhlenberg and Hopkins counties, about the center of the Western Kentucky coal field and in a new oil development section. A description of the property may be obtained from Mr. Crawley.

#### Institute of Steel Plate Construction

Officers of the Institute of Steel Plate Construction, New York, have been elected as follows: W. S. Wheeler, The Pennsylvania Engineering Co., New Castle, Pa., president; Arthur Caverno, Lancaster Iron Works, New York, vice president; E. P. McDaniels, McClintic-Marshall Co., Pittsburgh, Pa., treasurer, and J. W. Poushey, New York, secretary. A program outlined for the Institute includes, among other purposes, the promotion among members of an intelligent and cordial understanding of the industry's problems.

#### Safety Record in Cement Industry

The annual accident prevention report of the Portland Cement Association, Chicago, reveals that accidents of all types were reduced in member plants in 1930 by more than 28 per cent below 1929 figures, while production was less than 5 per cent under the previous year. The Association has carried on a safety campaign for a number of years.

#### Chicago Pump Representatives

The Chicago Pump Company, Chicago, Ill., manufacturers of sewage, condensation, circulating, bilge, fire, house and vacuum pumps, announce the appointment of R. K. Rothrock, 2204 Jefferson street, New Orleans, La., as representative in the New Orleans territory, and J. M. MacCrea, 155 Oakland street, Syracuse, N. Y., as representative in the Syracuse territory.

#### Harnischfeger Corporation Changes

Directors of the Harnischfeger Corporation, Milwaukee, Wis., have elected Walter Harnischfeger president and treasurer of the company to succeed his father, the late Henry Harnischfeger. Other officers of the corporation include E. Standfuss, vice president; R. Binkowski, secretary; C. Haugaard, treasurer, and F. J. Hartmann, assistant secretary.

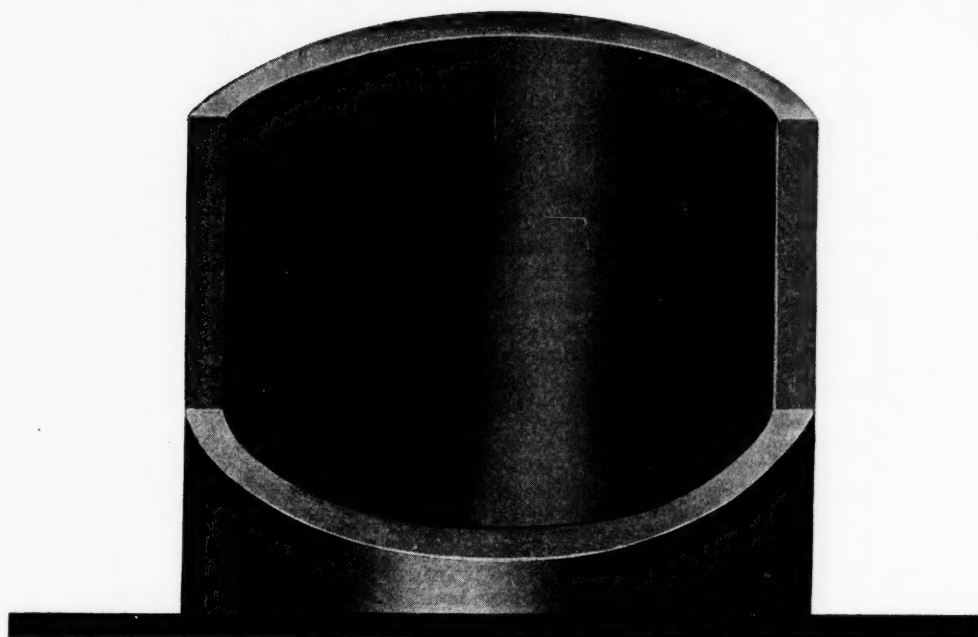
#### New Novo Engine Agency

Reporting a successful year for 1930, with bright prospects for 1931, the Tractor & Machinery Company, Inc., 351 Whitehall street, S. W., Atlanta, Ga., announces it has taken on the agency for the Novo Engine Company of Lansing, Mich., for the sale of hoists, pumps and the Novo Roller engine. Service for these machines has also been established.

(Continued on page 64)



# Here's the INSIDE STORY



**N**ATIONAL Scale Free Pipe looks different—you instinctively prefer it; and the apparent advantage is a real one. The clean, smooth surface and the uniform structure which it denotes, afford no easy entrance for corrosion. Absence of scale means that one of the chief causes of destructive "pitting" has been removed. It means also freedom from such clogging at valves and small openings as is often due to mill scale. If galvanizing or other protective coatings are to be applied, they adhere better to the clean, sound surface of Scale Free Pipe.

An additional advantage is, that the same extra rolling which makes NATIONAL Pipe scale-free, also increases the strength of the welds, making it especially desirable for bending, coiling and special uses. NATIONAL Pipe (Butt-weld sizes 1/2 to 3-inch) is both Scale-Free and Spellerized. Ask for descriptive Bulletin No. 7, on

*America's Standard Wrought Pipe*

NATIONAL TUBE COMPANY, PITTSBURGH, PA.

Subsidiary of United States Steel Corporation



## NATIONAL SCALE FREE PIPE

**SPELLERIZED**

(Continued from page 62)

**Granite City Steel Activities**

Showing a 50 per cent increase in activities in January over December, the Granite City Steel Company, Granite City, Ill., looks for improvement in employment conditions at the plant in the next three months over the last three, according to G. H. Neidringhaus, president. The tin plate department has shown the biggest increase and is now running at 75 per cent of capacity, it is said, expansion being due to a recent big contract made with the Pet Milk Company, St. Louis. About 1900 men are employed on full or part time.

**Furniture Factories Offered**

By order of the court, C. M. Vanstory, Jr., Greensboro, N. C., and J. W. Lambeth, Thomasville, N. C., receivers for the Knox Furniture Manufacturing Company, High Point, N. C., will offer for sale at public outcry on March 9 at the office of the company all plants and property of the firm. Owning two plants and a warehouse at High Point and a plant at Thomasville, the company manufactures dining room, bed room, living room and other classes of furniture, particularly an article known as a "davenette." It is a going concern and the property will be sold as a whole.

**Sand and Gravel Census**

The Bureau of the Census announces that production of sand and gravel in the United States in 1929 amounted to 165,526,074 tons, valued at \$100,016,527. These figures do not include approximately 10,000,000 tons for which incomplete reports, or no reports, have been received to date.

This industry, as defined for census purposes, embraces those establishments engaged wholly or principally in the commercial production of washed or screened sand and gravel. Data for railroad, state, county, and municipal operations are not included, those operations being considered as noncommercial. Data for establishments with annual commercial production of less than 25,000 tons are not included. Glass sand, molding sand, and ground sand obtained from quarried sandstone will be reported separately in connection with special sands and silica.

**PRELIMINARY STATISTICS FOR THE INDUSTRY: 1929**

Number of enterprises.....	1,152
Persons engaged, total.....	19,628
Proprietors and firm members..	253
Salaried employes, total.....	3,713
Wage earners (average for the year).....	15,662
Principal expenses, total.....	\$53,709,767
Salaries.....	\$10,987,343
Wages.....	\$22,129,921
Supplies.....	\$11,666,227
Fuel.....	\$3,772,514
Purchased electric current....	\$4,800,857
Contract work.....	\$352,905
Equipment purchased during the year.....	\$6,757,694
Horsepower rating of power equipment:	
Aggregate.....	517,804
Fuel used:	
Coal (short tons).....	652,427
Coke (short tons).....	5,901
Fuel oil (gallons).....	16,336,988
Gasoline and kerosene (gallons)	5,488,914
Sand and gravel produced:	
Tonnage (short tons).....	165,526,074
Value (f.o.b. plant).....	\$100,016,527

**Cotton Exports**

In the accompanying table of statistics by the Department of Commerce is shown the greatly reduced export business of the American cotton industry last year compared with 1929. Raw cotton shipments were 943,000 bales less in quantity and \$271,187,000 less in value, and the value of all cotton manufactures dropped from \$135,115,000 in 1929 to \$88,687,000 in 1930. In quantity of exports of American made cotton cloths there was a decline of 148,157,000 square yards and \$28,029,000 in value.

**DOMESTIC EXPORTS OF COTTON, COTTON CLOTHS, YARNS, THREADS AND HOSIERY**

	Twelve months ended December—	
	1929	1930
Raw cotton, except linters, bales.....	7,417,734	6,474,147
Raw cotton, except linters, value.....	\$764,750,978	\$493,572,163
Cotton manufactures, total, value.....	\$135,115,440	\$88,687,680
Cotton cloths, total sq. yds.....	564,447,306	416,289,961
Cotton cloths, total value.....	\$79,412,946	\$51,383,739
Tire fabrics, sq. yds..	6,325,202	1,505,431
Value.....	\$2,690,366	\$568,798
Cotton duck, sq. yds.	15,119,871	9,807,947
Value.....	\$5,232,343	\$3,023,693
Other cotton cloths—Unbleached, sq. yds.	137,857,835	102,698,167
Value.....	\$12,444,926	\$7,922,779
Bleached, sq. yds..	89,279,034	63,905,908
Value.....	\$10,589,933	\$6,951,110
Colored, sq. yds.....	315,865,364	238,372,528
Value.....	\$48,455,378	\$32,917,353
Cotton yarn, thread, etc.—		
Carded yarn, lbs...	13,919,250	8,163,786
Value.....	\$4,681,954	\$2,406,913
Combed yarn, lbs...	13,571,962	9,967,194
Value.....	\$10,843,493	\$7,452,002
Sewing, crochet, darning, lbs.....	1,136,707	983,866
Embroidery cotton, value.....	\$1,246,296	\$1,151,388
Cotton hosiery, doz. prs.....	3,777,534	2,252,449
Value.....	\$6,442,049	\$3,685,503

San Antonio, Tex.—As a token of appreciation for faithful service, the Central Power & Light Company has presented insurance policies to 1545 employees, representing total insurance of \$1,427,600. Employees in continuous service of the company for a period of six or more months are eligible for the minimum policy, the amount increasing in proportion to the number of years of continuous service.

**Railroads Pay for Land Grants**

(From G. M. &amp; N. News)

In discussion of the railroads' contention that they meet unfair competition on the part of forms of transportation which are directly or indirectly subsidized by the government, reference is frequently made to the fact that the railroads, in their development, received grants of land from the government to aid them in financing their roads. These grants were not without ample repayment. Certain conditions, such as reduced rates—averaging from 12 to 15 per cent—for the transportation of government troops, materials, etc., and for transportation of mail, were designated in order to reimburse the government. Monetary savings from these sources repay the entire value of land at the time of these grants every twenty-five years, not including the taxes which have been paid on the land which was retained.

While all railroads did not receive land grants, they share indirectly in the reduced revenue through a loss in this business which is routed when possible to benefit from the reduction, or through having to meet the reduced rates.

**Wood Distillation and Charcoal**

The total output of wood-distillation products and charcoal by manufacturers in the United States in 1929 is reported by the Census Bureau at \$29,589,637, an increase of 7.3 per cent as compared with 1927, the last preceding census year. The principal items covered by the total for 1929 are as follows: Crude methanol, 5,101,077 gallons, valued at \$1,794,392; refined methanol, 5,779,202 gallons, \$3,377,221; acetate of lime, 58,072 tons, \$4,683,683; wood turpentine,

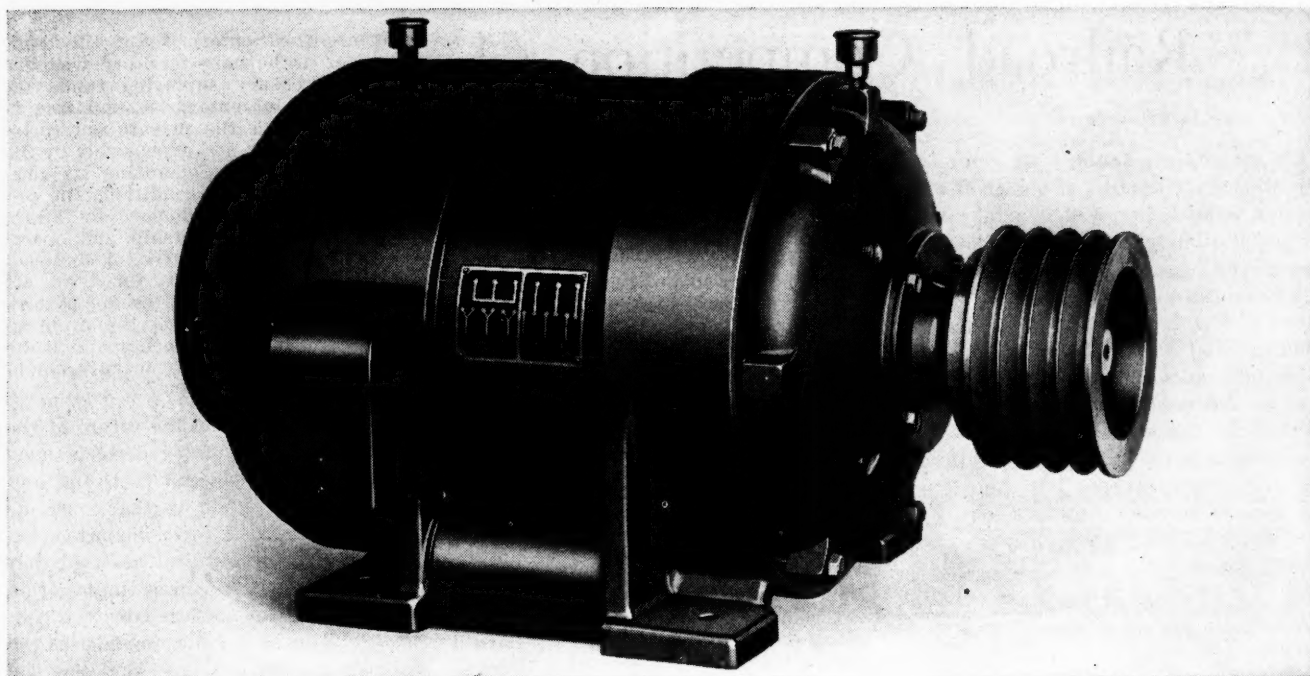
4,329,727 gallons, \$1,616,202; pine oil, 2,719,572 gallons, \$1,270,554; wood rosin, 478,555 barrels (500 pounds), \$5,443,213; charcoal, 41,767,735 bushels, \$5,491,172.

This report covers establishments engaged wholly or principally in the manufacture of methanol, charcoal, turpentine, rosin, pine oil, tar, etc., by the distillation of wood through the use of either the destructive or the steam process, and the production of charcoal by the charring of wood without recovery of the volatile products.

**SUMMARY FOR THE INDUSTRY**

	1929	1927
Number of establishments.....	91	88
Wage earners (average).....	4,642	4,537
Wages.....	\$5,281,628	\$4,739,153
Cost of materials, containers for products, fuel and purchased electric current.....	\$14,826,137	\$15,422,575
Products, total value.....	\$29,617,290	\$27,630,487
Wood-distillation products and charcoal.....	\$29,589,637	\$27,564,074
Other products.....	\$27,653	\$66,413
Value added by manufacture.....	\$14,791,153	\$12,207,912





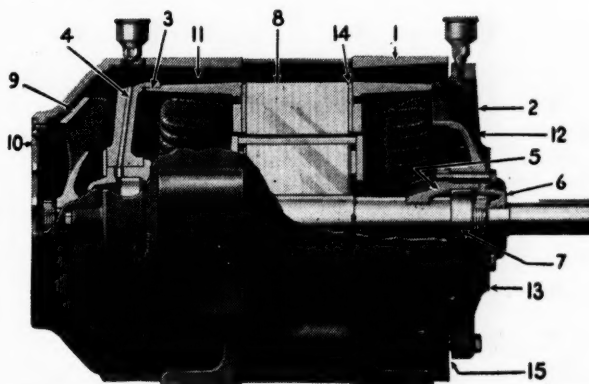
# Safeguarded —

*against dust, dirt, acid fumes, or moisture*

—those factors that tend to shorten the life of windings — the Allis-Chalmers, totally enclosed, fan-cooled motor is ideally suited for operation in chemical plants, foundries, cement plants, crushing plants, mining and coal preparation. Being weather-proof, it is suitable for outdoor service.

## — Important Features —

- 1—Cast steel end frames in combination with solid bearing housings (No. 2) provide complete enclosure without the use of sheet metal or other auxiliary parts.
- 2—Cast iron bearing housing serves also as end closure fitted to end frames with long rabbet fit (No. 3). Removable without exposing the bearings.
- 3—Rabbet fit forms a tight joint between end closure and stator frame.
- 4—Compression cup and grease duct, an integral part of housing assembly.
- 5—Bearing cartridge remains on shaft when motor is dismantled.
- 6—Cap secured to cartridge by screws prevents exposure of bearing and lubricant when rotor is removed.
- 7—Bearings of standard metric dimensions of medium series, secured by lock nut.
- 8—Stator and rotor laminations of silicon steel assure minimum core loss.
- 9—Cast aluminum fan, balanced, keyed and locked on shaft, designed for strength and efficient windage.
- 10—Fan housing with its grid cover completely isolates fan for safety.
- 11—Unobstructed air passage made shallow to increase air velocity over cooling surfaces.
- 12—Flush type pipe plugs for inspection of air gap.
- 13—Clamping ring.
- 14—Stator teeth supported by punchings of heavy plate steel.
- 15—Space for inserting a pinch bar to pry loose the bearing housings.



Sectional View Illustrating the Compact Design, Sturdy Mechanical Construction, and Accessibility.

# ALLIS-CHALMERS

— Allis-Chalmers Manufacturing Company, Milwaukee —

## Railroad Competition

**I**N an address January 22 before the Bloomington (Ill.) Chamber of Commerce, John J. Cornwell, general counsel of the Baltimore and Ohio Railroad Company, and former Governor of West Virginia, outlined some of the policies of the road in reference to its acquisition of the Chicago and Alton. Reviewing the question of railroad consolidations, sanctioned under the 1920 Amendment to the Interstate Commerce Act, and the steps leading up to the unification of railroads in the eastern region into four trunk systems Governor Cornwell said:

"The difficulties confronting the executives in trying to effect an agreement for the grouping of the lines in trunk line territory were so numerous as to be almost insurmountable. Even now there are unsettled questions. That these might not upset the general scheme, they are to be left to arbitration.

"I think you and all the people of the country have a big stake in this agreement; that you may well urge those who would destroy it, whether in or out of Congress, to desist; for if this four-system proposal is turned down by the Commission or thwarted by Congressional action, the railroad situation in that eastern region will not only fail of coordination but it may, to some degree, become chaotic. Its effect on the general business situation in the country as a whole would be most unfavorable.

"In other times this might not have been the case, but times have changed, conditions have changed. The railroads today are faced with competition of various kinds, of new forms, much of which is, in effect, subsidized by Federal and State Governments; subsidized by indirect payments out of the public treasuries, tax money, no inconsiderable part of which the railroads, themselves, pay. This subsidizing process of competitive transportation catches the railroads like the old colored man's trap caught the mice—'comin' and gwiein'.

"Not in a spirit of complaint or of criticism, but in frank recognition of changed conditions, let us recall some of the things that have happened.

"Each decade, up to the last one, the freight and passenger business of the steam railroads increased in proportion to the growth and development of the country, the freight business more than 80 per cent in some ten-year periods and the passenger traffic almost proportionately. From 1920 to 1929, inclusive, the increase in revenue ton-miles was less than nine per cent, while passenger miles actually decreased 35 per cent. During that period, however, the railroads raised and expended for capital purposes—to expand and improve their facilities—six billions of dollars, assuming responsibility for increased net earnings to pay interest or dividends on that new capital amounting to more than \$250,000,000 annually.

"What caused this slump in the there-

fore normal increase in their freight revenues and the actual decrease of more than one-third in their passenger revenues in the last ten years?

"In 1920 there were about 8,000,000 automobiles registered in the United States. In 1929 there were more than 23,000,000.

"In 1920 there were 10,000 passenger motor buses in operation as public carriers. In 1929 the number had increased to 92,000. That accounts for the loss of passenger business, except that airplane travel has, likewise, become a considerable factor. Motor truck transportation development has been even more devastating in its effect upon railroad revenues. Without the cost of the upkeep of the roadbeds upon which they operate, as in the case of the railroads, without Government regulation of their rates, routes or reports, naturally they have a great advantage over the rail carriers in many particulars, upon which time will not permit me to elaborate.

"But this is not all, or the worst, from the railroad point of view. The tonnage carried by ship lines through the Panama Canal increased from 1,372,000 tons in 1921 to 10,100,000 tons in 1929, or 637.3 per cent. The railroads are forbidden to operate ship lines through the Canal, nor are they permitted to adjust rates, as in some instances they might, to meet this unregulated competition.

"Here in the Middle West there appears to be great interest in inland waterways development, which the railroads have not and do not oppose where actually economically justified. Hundreds of millions of dollars have been expended and huge sums are still being appropriated to deepen inland waterways and carry on that development, a very considerable part of which is paid into the Government Treasury by the railroads in taxes. That business has grown rapidly under the fostering hand of the Government. In 1920 there were handled on these waterways 83,000,000 tons of freight, while in 1928, the last year for which figures are available, 161,000,000 tons were carried. Concerns operating on these waterways do not have to take 15 cents out of every dollar earned for the upkeep of the roadbed, as do the railroads; nor do they pay taxes on it. It is furnished free and there are no expensive and restrictive regulations of the operation, as in the case with the railroads.

"There is one phase of this waterways operation we do think is uneconomical, unfair and un-American in character and that is the operation of Government barge lines, at Government expense, in competition with the rail carriers, and the requirements of interchange of traffic and divisions of rates and revenues by the railroads with the barge company. This is similar to Senator Brookhart's proposal, embodied in his bill, for the Government to acquire a transcontinental railroad line, to be operated by the Government in competition with the privately owned but Government regulated railroads.

"Certainly a man need not be a Solomon to know that private enterprises cannot compete successfully with a Gov-

ernment-owned enterprise of the same character in the same territory, with the Federal Treasury supplying funds for the Government enterprise, collected in large part from the private enterprise regulated strictly and expensively by the Government that is operating its competitor. Under such conditions the private enterprise is doomed to failure and Government ownership and operation is the only alternative. I shall not discuss that eventuality, for I do not think this country desires to pattern after Russia and that is the eventual pattern for all governments and countries which indulge fully in government ownership and operation."

[Citing the fact that the future of the railroads of the country depends upon the American people and their full and correct understanding of what confronts the railroads and their managements today, Governor Cornwell asserted that the people must get more information from the records and less from the politicians. This is a point emphasized repeatedly in these columns—that the public must be kept informed about the railroad situation. It should be the railroads' primary policy to place the facts before the public, and if the public decides in their favor, it would soon find ways and means to provide the help needed to unify the systems and to lessen operating and transportation costs. This cannot be done by loading the railroads with more taxes and by drastic regulations that limit their ability to compete with air, water and highway lines. As Governor Cornwell says:

"The preservation of the railroads and of efficient railroad transportation is vital to all the people of this country."

Surely the public has too much at stake in invested capital and understands too well the absolute need of railroad service to fail to appreciate the seriousness of the situation and the necessity for help to bring about greater stability of the railroad transportation industry of the country.—Editor MANUFACTURERS RECORD.]

### New Chesapeake Bay Freighter

Salisbury, Md.—The Victor Lynn Line, operating a freight service between Salisbury and Baltimore, will soon put in commission a new all-steel freighter, the Red Star, now nearing completion at the yards of the Midland Barge Co., Pittsburgh, Pa. The new boat is 155 feet long, with a beam of 31 feet and a draft of 8 feet 6 inches when loaded. It is equipped with two Diesel engines of 280-300 horsepower each, to drive twin screws, and incorporates watertight compartments and collision bulkheads in its construction. Thomas D. Bowes, naval architect of Philadelphia, Pa., designed the vessel.



# ◆ C O L E ◆



## 500,000 Gallon Tank

erected for City of St. Petersburg, Fla. Cole tanks both in design and workmanship offer very distinctive advantages. They embody the most revised requirements of all insurance authorities.

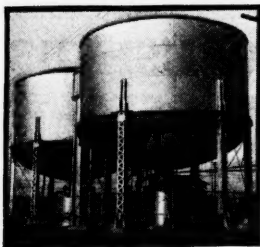
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**R. D. COLE MANUFACTURING CO.**

Established 1854

NEWNAN, GA.

New York Office,  
5 Beekman St.



Horton elevated tanks for storing caustic soda.

## HORTON STEEL TANKS

Elevated, flat-bottom and cylindrical steel tanks in either standard or special designs for the storage of liquids or solids. Steel plate work such as smokestacks, penstocks, creosoting cylinders and kilns. Please state capacity, location and (for elevated tanks) height to bottom when requesting quotations.

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Birmingham...1530 Fifth St. North	Chicago...2196 Old Colony Bldg.
Dallas...3308 Magnolia Bldg.	San Francisco...1040 Rialto Bldg.
Houston...1114 Electric Bldg.	Philadelphia...1619 Jefferson Bldg.
Tulsa...2411 Exchange Bank Bldg.	Detroit...1510 Lafayette Bldg.
New York...3113 Hudson Terminal	Boston...1510 Consol. Gas Bldg.
Cleveland...2216 Midland Bank Bldg.	Seattle...1328 Smith Tower

B-196



## SOUTHLAND PRODUCTS

STAND PIPES  
SMOKE STACKS  
TOWERS and TANKS  
STEEL RIVETED  
PIPE

Chattanooga Boiler & Tank Co.  
CHATTANOOGA, TENN.  
TANKS

### Mathews Fire Hydrant

Because the entire barrel, with all parts, is removable, broken "MATHEWS" hydrants are easily replaced without digging.

CAST IRON PIPE and FITTINGS  
SAND SPUN (Centrifugally Cast)  
and PIT CAST  
GATE VALVES VALVE BOXES

**R. D. WOOD & CO.**  
PHILADELPHIA, PENNA.

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## STEEL TANKS

ANY SIZE FOR ANY PURPOSE

PITTSBURGH-DES MOINES STEEL COMPANY  
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DES MOINES NEW YORK CHICAGO ATLANTA DALLAS SEATTLE SAN FRANCISCO

## UNIVERSAL CAST IRON PIPE

THE CENTRAL FOUNDRY COMPANY  
Graybar Bldg., 43rd St. and Lexington Ave., New York, N. Y.  
Chicago Birmingham Dallas San Francisco

no packing no calking no bell holes

# GLAMORGAN

PIPE & FOUNDRY CO.

GENERAL FOUNDERS AND MACHINISTS  
LYNCHBURG, VA.

## CAST IRON PIPE - AND FITTINGS -

American Cast Iron Pipe Company  
Birmingham, Ala.

SALES OFFICES IN PRINCIPAL CITIES

One-Fifth The Weight of Cast Iron Pipe

ROOT SPIRAL RIVETED PIPE

One-Third The Weight of Wrought Pipe

**AN ABSOLUTELY TIGHT DURABLE PIPE**

The lap riveted seam repeats its cycle every twelve inches, forming a broad-stiffening rib of great value, and make. Root pipe one-third stronger than any other type of pipe construction. Light weight and simple connections reduce transportation handling and erection costs. Suitable for conveying water, air, gas, exhaust steam and powdered coal.

**ABENDROTH & ROOT MANUFACTURING COMPANY**  
Pipe Specialties Continuously Since 1867. Sales Office: Woolworth Bldg., N. Y.

CEMENT-GUN CONSTRUCTION CO.

## GUNCRETE

16 years experience placing sand and cement mortar with compressed air. Call our Engineering or Contracting Department for service.

537 S. Dearborn St. CHICAGO    Oliver Building PITTSBURGH    Grand Central Terminal NEW YORK

### Organizing Building Congresses

Organization of Building Congresses, linking architects, builders, bankers, and workers, will be a major aim of the Committee on Industrial Relations of the American Institute of Architects during 1931, according to the annual report of the Committee, of which William Orr Ludlow of New York, Fellow of the Institute, is chairman.

Establishment of credit associations for the guidance of the building industry in distinguishing between financially responsible and irresponsible firms is also projected. Efforts will be continued to secure recognition of superior craftsmanship through Building Congresses and Chapters of the American Institute of Architects. The Committee also seeks united action to relieve unemployment, and to inform the public of the advantage of building now, while costs are from 15 to 20 per cent below normal.

The value of local Building Congresses composed of all the elements of the building industry, including financiers, real estate men, architects, contractors, building material producers and labor, is said to be abundantly demonstrated by the long success of the Building Congresses in New York, Philadelphia and other cities.

"These organizations," states the Com-

mittee, "have successfully carried out numerous undertakings, including the education and training of many thousands of apprentices for the building trades, the establishment of courts of arbitration for the speedy and equitable settlement of building disputes, the encouragement of winter building to avoid seasonal depression and lack of employment, the production of standard specifications, and the sponsorship of social gatherings to promote the personal relationships essential to effective co-operation."

During the past year the Committee has aided in the setting up of Building Congresses in South Carolina and Tennessee, and similar activity is now being directed by Chapters of the American Institute of Architects in South and Central Florida, Mississippi, and other states.

Members in the South of the Institute Committee on Industrial Relations are:

Ralph H. Cameron, San Antonio; M. H. Furbringer, Memphis, and Henry F. Hoit, Kansas City, Mo.

## Rice Data for 1929

The Census Bureau announces that the total output of cleaned and polished rice in the United States in 1929 was 1,231,077,469 pounds, valued at \$45,685,-

102. This represents decreases of 1.2 per cent and 11.9 per cent, respectively, as compared with 1,246,642,941 pounds, valued at \$51,827,572, reported for 1927, the last preceding census year.

### SUMMARY FOR THE INDUSTRY

	1929	1927
Number of establishments.....	58	60
Wage earners (average).....	1,569	1,524
Wages .....	\$1,425,299	\$1,546,315
Cost of materials, fuel and purchased electric current....	\$38,099,671	\$46,480,679
Products, total value.....	\$48,370,258	\$54,129,646
Rice, bran and polish.....	\$48,093,267	\$53,687,886
Other products .....	\$276,991	\$441,760
Value added by manufacture.....	\$10,270,587	\$7,648,967



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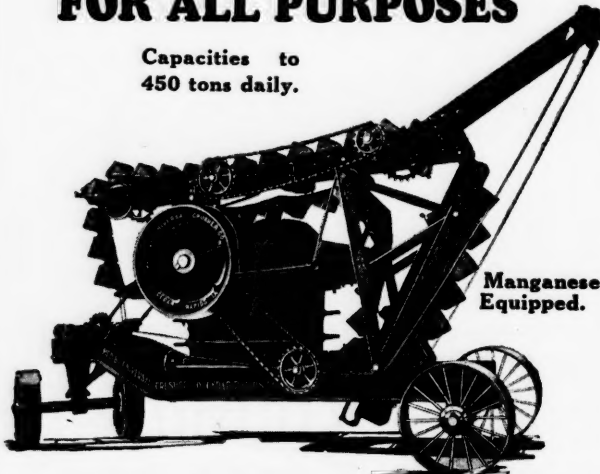
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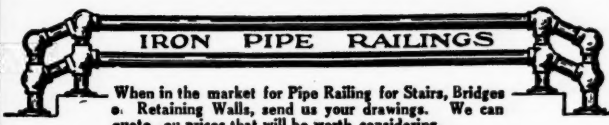
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# FINANCIAL NEWS

## Bond Issues Proposed

Ala., Mobile—City, S. H. Hendrix, Clk., opens bids Feb. 17 for \$430,000, 5%, \$1000 denom. public improvement bonds.

Ark., Fort Smith—City issue \$68,000 to \$70,000 street paving bonds.

Ark., Fort Smith—City votes Apr. 7 on \$125,000 bonds for new apparatus and general improvement of Fire Dept.

Fla., Jasper—Hamilton County Special Tax School Dist. No. 3, W. W. Bradshaw, Supt. of Bd. of Public Instruction, opens bids Feb. 23 for \$9500, 6%, \$500 denom. bonds.

Fla., St. Augustine—City, J. W. Hoffman, Chmn., Bd. of Bond Trustees, opens bids Feb. 18 for \$216,000, not to exceed 6%, \$1000 denom. refunding bonds.

Ky., Louisville—City, Henry B. Manly, Sec. Bd. of Education, opens bids Feb. 20 for \$1,000,000 bonds.

La., Baton Rouge—City, L. J. Ricaud, Commr. of Finance, opens bids Mar. 6 for \$50,000 street and alley improvement coupon bonds.

La., Many—City, Mayor and Bd. of Aldermen, opens bids Mar. 10 for \$14,000, not to exceed 6% water works bonds.

Md., Baltimore—City, A. Walter Kraus, City Solicitor, will ask Legislature to pass enabling act allowing election on \$1,000,000 bonds for new People's Court and Orphans' Court building; also plans asking permission to vote on \$2,500,000 bonds for park extension. 1-29

Md., Bel Air—Harford County asked Legislature for permission to issue \$750,000 road bonds.

Md., Centerville—City has bill before Legislature asking permission to issue electric plant bonds.

Md., Cumberland—State Legislature passed bill authorizing city, Samuel Wertheimer, Commr. of Finance and Revenue, to issue \$900,000 bonds for building additional dam and extending and improving water system.

Md., Ocean City—City asked Legislature for permission to issue \$20,000 bonds for extension of water and sewer system and other improvements.

Md., Salisbury—State Legislature passed bills authorizing city, Wade Insley, Mayor, to issue \$50,000 street improvement and \$75,000 water system extension and improvement bonds. 1-1

Md., Salisbury—Wicomico County Commrs. asking State Legislature for permission to issue bonds: \$100,000 or \$110,000, without referendum, to complete Salisbury High School; \$75,000 for addition to Delmar High School; \$65,000 for Mardela High School; \$290,000 for addition and remodeling courthouse, building new jail and quarters for sheriff.

Mo., Mexico—City plans election on \$90,000 sewage plant disposal bonds.

Mo., St. Joseph—City, Bartlett Boder, Comptroller, plans selling \$136,000 refunding bonds in near future.

N. C., Leaksville—Town, C. C. Campbell, Sec., opens bids Feb. 20 for \$250,000 school bonds.

N. C., Littleton—Town, E. C. Bobbitt, Clk., received no bids for \$10,000, 6% improvement funding notes. 1-22

Okla., Fairfax—City plans \$120,000 electric light and power plant bond issue.

Okla., Haskell—Town, W. H. James, Clk., rejected bids for \$45,000 water supply bonds. 1-22

Okla., Oklahoma City—City, J. L. Larson, Mayor, voted \$193,000 water works bonds. 1-15

Okla., Ponca City—City votes Feb. 16 on \$36,000 bonds: Water system purchase, \$30,000; electric system purchase, \$6000.

Tennessee—State Legislature authorized bonds: \$30,000 Lawrence County School following issues: \$6000 Erin, 6% water works bonds; \$150,000 Hardeman County, not to exceed 6% road notes or warrants; \$20,000 Sharon Special School Dist., not to exceed 6% school bonds; \$31,000 Houston County, 5½% funding bonds; \$75,000 Scott County, not to exceed 6% school warrants, and \$10,000 Halls County, not to exceed 6½% refunding bonds.

Tenn., Camden—Benton County authorized by Legislature to issue \$60,000, not to exceed 6%, not more than \$1000 denom. bonds.

Tenn., Jamestown—Fentress County authorized by Legislature to issue \$100,000, not to exceed 6% funding bonds.

Tenn., Johnson City—City authorized by Legislature to hold election on \$1,000,000 electric light and power plant bonds. 1-22

Tenn., Knoxville—Knox County asked Legislature for permission to issue \$500,000 bridge bonds.

Tenn., Pulaski—Giles County authorized by Legislature to issue \$100,000, not to exceed 6% indebtedness bonds.

Tenn., Wartburg—Morgan County authorized by Legislature to issue \$20,000, not to exceed 6% jail notes.

Tex., Dallas—Preston Road Fresh Water Dist., Ira P. DeLoache, Chmn., Bd. of Suprvs., recently voted \$175,000 bonds. 12-4-30

Tex., Fort Worth—City, O. E. Carr, City Mgr., has high bid for \$500,000 water works and \$700,000 improvement bonds from Eldredge & Co., New York; Guardian Trust Co., Houston, and George L. Simpson & Co., Dallas, at \$101.25 on the \$100. 1-29

Tex., Galveston—City, F. A. Quin, City Auditor, rejected all bids for \$1,655,000 municipal and school bonds.

Tex., Hamilton—Hamilton County may vote on \$65,000 courthouse bonds.

Tex., Laredo—Laredo Independent School Dist., W. P. Galligan, Supt. of Schools, plans voting about May 1 on \$350,000 school improvement bonds.

Tex., Paint Rock—Concho County Road Dist. No. 1, recently organized, call election for near future on \$285,000 bonds.

Va., Fairfax—Town, Thomas P. Chapman, Mayor, opens bids Feb. 24 for \$5000 of \$50,000 water system bonds. 2-5

Tex., Rankin—City plans selling \$45,000 water system purchase bonds in near future.

Va., Falls Church—Town, L. P. Daniel, Mayor, votes Feb. 25 on \$125,000 water works bonds. 1-29

## Bond Issues Sold

La., Plaquemine—Iberville Parish School Bd., L. P. Terrebonne, Supt. of Schools, sold \$120,000, 5%, \$1000 denom. bonds to Boatmen's National Co., St. Louis, Mo., at par and \$506 premium; accrued interest to be paid by purchaser. 1-15

La., Plaquemine—Iberville Parish School Bd. sold \$120,000, \$1000 denom. bonds to Boatmen's National Bank, St. Louis, Mo. 1-15

N. C., Charlotte—Mecklenburg County Commrs. sold \$175,000 4% school and highway notes to American Trust Co. at \$73.50 premium.

N. C., Charlotte—Mecklenburg County, reported, sold \$100,000 4% tax anticipation notes to Merchants & Farmers Bank; \$26 premium.

N. C., Greenville—Pitt County sold \$100,000 notes to Bray Bros., Greensboro, at 6%; reported, sold \$75,000 notes to Greenville Banking & Trust Co. at 6%.

Okla., Sulphur—City sold \$35,000 park and \$30,000 sewage disposal plant bonds to Tallor-White Co., Oklahoma City, as 5s, at par.

Tenn., Knoxville—City, Geo. R. Dempster, City Mgr., sold \$500,000, 5% revenue anticipation notes to Stranahan-Harris Co., Toledo, Ohio.

Tex., La Feria—City sold \$30,000 bonds to F. P. Elwrath, Corsicana. 1-22

Tex., Mathis—Mathis Independent School Dist. sold \$60,000 bonds to B. F. Dittmar Co., San Antonio, at par.

## New Financial Corporations

Ark., Bentonville—C. S. Hampton, Quinton, Okla., and I. H. Nakdimen interests, Fort Smith, plan State bank with \$25,000 capital; directors to include J. S. Tetley, Walter Haxton and Vern Rife, all Bentonville.

Ky., Lexington—Lexington Finance Co., capital \$50,000, chartered; C. W. Hayes, O. L. Evans.

N. C., Lenoir—Union National Bank, capital \$150,000, chartered; F. H. Coffey, Pres.; L. A. Dysart, Cashier.

Tenn., Knoxville—Thomas R. Preston, C. M. Preston, both Chattanooga, and associates plan establishing new bank.

Bankers' Securities Co., Will F. Miller, Houston, Tex., increasing capital stock, \$250,000 to \$1,000,000.

Iberville Trust & Savings Bank, recently formed, acquired Iberville Bank & Trust Co., both Plaquemine, La.; officers of new bank include Frederick P. Wilbert, Pres.; Sprague Pugh, Cashier, and others.

Union Banking Co., Moses Griffin, Douglas, Ga., plans reorganizing and reopening.

## Financial Notes

### Earnings Show Increase

Gross earnings of the Engineers Public Service Company, New York, and constituent companies, most of which are Southern enterprises, for the year ended December 31, 1930, amounted to \$53,041,640, as compared with \$50,810,589 for the year ended December 31, 1929. Net operating revenue for 1930 was \$22,722,322, as against \$21,252,243 for 1929. Gross earnings for December, 1930, amounted to \$4,537,687, as compared with \$4,531,544, and net operating revenue for December, 1930, was \$2,044,537 as compared with \$2,064,081.

### Du Pont de Nemours Annual Report

The annual report of E. I. du Pont de Nemours & Company, Wilmington, Del., for 1930 shows earnings applicable to common stock of \$49,990,029, or \$4.64 a share earned on the average number of 10,783,555 shares outstanding, which compares with \$72,300,627 or \$7.09 a share earned on the average number of 10,196,777 shares outstanding for 1929. Net income for 1930 after making provision for Federal income taxes and interest on bonds of subsidiary companies was \$55,962,009, equal to 9.4 times the debenture stock dividends and in excess of dividend requirements of both debenture and common stock by \$3,900,197. Net income for 1929 was \$78,171,730. Surplus account was increased from \$144,920,215 to \$208,082,665.

### Commonwealth & Southern Report

For 12 months ended December 31, 1930, gross earnings of the Commonwealth & Southern Corporation, New York, and its subsidiaries amounted to \$141,656,530 and net earnings to \$72,684,117. This compares with gross earnings of \$147,370,481 for the year ended December 31, 1929, and net earnings of \$75,406,180. Earnings applicable to common stock dividends after provision for retirement reserve amounted to \$20,555,368, or the equivalent of slightly more than 60 cents per share on common stock outstanding December 31, 1930. Gross earnings for December, 1930, amounted to \$12,135,314, as compared with \$12,876,701 for December, 1929, and net earnings were \$7,067,508, as compared with \$6,990,819. Directors of the company have declared a quarterly dividend of 15 cents per share on the common stock, payable March 2, and a quarterly dividend of \$1.50 per share on the preferred stock, \$6 series, payable April 1.

### Hood Heads Southern Engineering

B. O. Hood has been elected president of the Southern Engineering Company, Charlotte, N. C., to succeed the late Leslie Graham Berry, former president, and founder of the enterprise. Mr. Hood was associated with Mr. Berry as aide for many years.



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# PROPOSALS

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## Bids close February 18, 1931.

U. S. Engineer Office, Jacksonville, Fla.—Sealed bids, in duplicate, will be received here until 12 noon, February 18, 1931, and then opened, for furnishing all labor and materials and performing all work for repairing approximately eight miles of training walls and revetments, St. Johns River, Florida, between the entrance and Dames Point. Further information on application.

## Bids close February 19, 1931.

U. S. Engineer Office, Jacksonville, Fla.—Sealed bids, in duplicate, will be received here until 12 noon, February 19, 1931, and then opened, for furnishing all labor and materials and performing all work for dredging approximately 951,000 cubic yards of material consisting of 838,000 cubic yards of material other than rock and 113,000 cubic yards of rock in the Biscayne Bay Section of the Intracoastal Waterway from Jacksonville to Miami, Florida. Further information on application.

## Bids close March 4, 1931.

Office of the Executive Officer, Arlington Memorial Bridge Commission, Navy Building, Washington, D. C. Sealed bids will be received in this office until 11:00 A. M., Eastern Standard Time, March 4, 1931, and then publicly opened in Room 1613 Navy Building, for the furnishing and delivering of the granite facing for the Memorial Entrance to the Cemetery of the Arlington Memorial Bridge project. Approximately 61,500 cubic feet of cut granite, mostly 6-cut and 8-cut, is involved in the work. Further information upon application.

## Bids close March 23, 1931.

TREASURY DEPARTMENT, Bureau of Engraving and Printing, Washington, D. C., February 5, 1931—Sealed proposals are invited to furnish dextrine, oils, textiles, and dry colors, during the fiscal year beginning July 1, 1931. The right is reserved to reject any or all bids or parts of bids. Samples must be received at the Bureau of Engraving and Printing not later than 2 p. m., March 23, 1931. Blank forms with specifications for proposals, giving dates on which the bids for the several schedules will be opened, and further information will be furnished on application to A. W. HALL, Director.

## Bids close February 25, 1931.

U. S. Department of Agriculture, Bureau of Public Roads, Washington, D. C., January 20, 1931. SEALED BIDS, subject to the conditions contained herein, will be received until eleven o'clock a. m., February 25, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for Unit IV of the Mount Vernon Memorial Highway. Duplicate copies are not required. Unit IV begins on Columbia Island in the Potomac River at a point approximately 1300 feet south of the center line of the Arlington Memorial Bridge Plaza and extends to the entrance gates of Mount Vernon, being located partly in the District of Columbia, partly in Alexandria, Virginia, and partly in Arlington and Fairfax counties, Virginia. Unit IV is approximately 15.361 miles long and consists of paving the highway and incidental construction as scheduled herein-after. The work to be done under this unit has been divided into two sections. Separate bids will be received for the work embraced in either section. Bidders, if they so desire, may submit bids both for the work divided into sections and for the work as a whole, in which event the amount of the guarantee required with the bid will be not less than 20 per cent of the larger total for the unit. The right is reserved to let the work as a single contract or to award separate contracts for the work embraced in each section, as may appear to be the best interest of the Government. The bids will be opened in the office of the

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The rate is the same for both publications—35 cents a line each insertion.

Chief, Bureau of Public Roads, U. S. Department of Agriculture. Information for bidders, together with forms and questionnaires, may be obtained in the office of the Bureau of Public Roads, Willard Building, Washington, D. C. Each bidder must submit with his bid, or previously, an attested statement, on the prescribed forms, of the business and technical organization of the bidder, available for the contemplated work, including financial resources and highway construction experience, compared with the project bid upon. The United States expressly reserves the right to reject any bid in which the facts as to business and technical organization, financial resources, or construction experiences, compared with the project bid upon, justify such rejection. Bidders must submit with their bids a plan and equipment questionnaire showing in complete detail the proposed manner of handling the contract, the organization of forces, the equipment and equipment layout, camp set-ups and other pertinent information. SECTION 1 of Unit IV consists of paving the highway from the beginning on Columbia Island to Station 404, a distance of approximately 7.567 miles, together with the incidental construction required. Station 404 is approximately at the south end of the Hydraulic Fill over Hunting Creek south of Alexandria. The approximate quantities of each item of work for Section 1 are as follows: 1, 125,560.0 cu. yds. unclassified excavation; 2, 3,886.0 cu. yds. unclassified excavation for structures; 3, 19,200.0 cu. yds. unclassified excavation for borrow; 4, 80,000.0 sta. yds. over-haul; 5, 17,500.0 cu. yds. gravel sub-base course; 6, 93,210.0 sq. yds. clay bound gravel base course; 8, 26,700.0 sq. yds. dry choked stone base course; 9, 100,840.0 sq. yds. bituminous concrete base course; 10, 75,330.0 sq. yds. reinforced concrete base course; 11, 49,550.0 sq. yds. plain concrete base course; 13, 178,390.0 sq. yds. bituminous concrete surface course; 14, 49,550.0 sq. yds. sheet asphalt pavement; 16, 38.0 cu. yds. class A concrete; 17, 320.0 lbs. reinforcing steel; 18, 6.6 cu. yds. cement rubble masonry; 19, 5.0 cu. yds. dry rubble masonry; 20, 2.1 cu. yds. brick masonry; 21, 3,091.0 lin. ft. culvert pipe, 8-inch diameter; 22, 1,045.0 lin. ft. culvert pipe, 12-inch diameter; 23, 506.0 lin. ft. culvert pipe, 18-inch diameter; 25, 790.0 sq. yds. vitrified block gutter; 26, 19,550.0 lin. ft. concrete curb, 20-inch depth; 27, 1,480.0 lin. ft. concrete curb, 18-inch depth; 29, 23,710.0 lin. ft. concrete curb, 15-inch depth; 31, 8,150.0 lin. ft. concrete curb, 12-inch depth; 32, 3,950.0 lin. ft. combination curb and gutter; 34, 3 each manholes; 35, 10 each cast iron frames and gratings, type A; 36, 62 each cast iron frames and gratings, type B; 37, 4 each cast iron frames and gratings, type C; 38, 31,000.0 lin. ft. low guard rail; 39, 3,920.0 lin. ft. high guard rail; 40, 40 each adjusting street

structures; ALTERNATE BID FOR ITEM 13; 41, 178,390.0 sq. yds. cold laid bituminous concrete pavement, or 42, 178,390.0 sq. yds. sandrock asphalt pavement; ALTERNATE BID FOR ITEMS 14 AND 25; 43, 50,340.0 sq. yds. vitrified brick pavement. The above tabulation for Section 1 includes 8-inch, 12-inch and 18-inch culvert pipe. For these items bids will be received on either Concrete Pipe or Vitrified Clay Pipe or on both. SECTION 2 consists of paving the highway from the end of Section 1 to the end of the highway as described above, a distance of approximately 7.794 miles, together with the incidental construction required. The approximate quantities of each item of work for Section 2 are as follows: 1, 25,000.0 cu. yds. unclassified excavation; 2, 914.0 cu. yds. unclassified excavation for structures; 6, 7,550.0 sq. yds. clay bound gravel base course; 7, 26,000.0 sq. yds. gravel base course; 12, 32,760.0 sq. yds. bituminous macadam surface course; 15, 203,500.0 sq. yds. reinforced concrete pavement; 16, 32.0 cu. yds. class A concrete; 17, 440.0 lbs. reinforcing steel; 18, 4.7 cu. yds. cement rubble masonry; 19, 10.0 cu. yds. dry rubble masonry; 20, 5.0 cu. yds. brick masonry; 21, 600.0 lin. ft. culvert pipe, 8-inch diameter; 22, 420.0 lin. ft. culvert pipe, 12-inch diameter; 23, 158.0 lin. ft. culvert pipe, 18-inch diameter; 24, 100.0 sq. yds. grouted rubble gutter; 26, 2,870.0 lin. ft. concrete curb, 20-inch depth; 28, 737.0 lin. ft. concrete curb, 16-inch depth; 30, 76,840.0 lin. ft. concrete curb, 13-inch depth; 33, 360.0 sq. yds. brick walks; 35, 11 each cast iron frames and gratings, type A; 36, 57 each cast iron frames and gratings, type B; 38, 20,900.0 lin. ft. low guard rail; 39, 9,960.0 lin. ft. high guard rail. The above tabulation for Section 2 includes 8-inch, 12-inch and 18-inch culvert pipe. For these items bids will be received on either Concrete Pipe or Vitrified Clay Pipe or on both. ENTIRE WORK. The approximate quantities for the entire work are the summation of the items and quantities contained in the tabulations for Sections 1 and 2. Where copies of plans are furnished bidders, a deposit of \$30.00 will be required to insure their return. All checks should be made payable to A. Zappone, Disbursing Clerk, U. S. Department of Agriculture. If within 15 days after opening bids plans are not returned, the deposit will be forfeited to the Government. Guarantee will be required with each bid as follows: In the sum of not less than 20 per cent of the total amount bid for the work. If certified check is furnished it should be made payable to A. Zappone, Disbursing Clerk, U. S. Department of Agriculture. Performance bond will be required as follows: In the sum of 100 per cent of the total amount bid for the work awarded. Performance must begin within 15 calendar days after date of receipt of notice to proceed and must be completed within 320 calendar days from that date. Liquidated damages for delay will be as follows: For Section 1 the amount of \$150 for each calendar day of delay until the work is completed and accepted. For Section 2 the amount of \$150 for each calendar day of delay until the work is completed and accepted. For the entire work the amount of \$300 for each calendar day of delay until the work is completed and accepted. Partial payments will be made as stipulated in the specifications. Article on patents will be made a part of the contract, but attention is invited to Special Provision Number (16). Bids must be submitted upon the Standard Government Form of Bid and the successful bidder will be required to execute the Standard Government Form of Contract for Construction. The right is reserved, as the interest of the Government may require, to reject any and all bids, to waive any informality in bids received, and to accept or reject any items of any bid, unless such bid is qualified by specific limitation. Envelopes containing bids must be sealed, marked and addressed as follows: "Bid for Unit IV, Mount Vernon Memorial Highway, Bureau of Public Roads, U. S. Department of Agriculture, Washington, D. C. To be opened at 11:00 a. m., February 25, 1931. Submitted by

(Name of Contractor.)

THOS. H. MacDONALD, Chief of Bureau.



Bids close February 26, 1931.

OFFICE OF THE ARCHITECT OF THE CAPITOL, Washington, D. C., January 30, 1931. SEALED BIDS will be opened in this office at 3 P. M., February 26, 1931, for excavation and foundations for the United States Supreme Court Building, to be built on Squares 727 and 728, Washington, D. C. On or after February 5, 1931, drawings and specifications, not exceeding two sets, may be obtained at the Office of the Architect of the Capitol, in the discretion of said Architect, by any satisfactory general contractor. A deposit of fifty dollars (\$50.00) will be required for each set of drawings and specifications, to insure their return in good condition. Checks therefor to be made payable to the order of David Lynn, Architect of the Capitol.

Bids close March 2, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., February 4, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., March 2, 1931, for furnishing all labor and materials and performing all work for remodeling and enlarging the U. S. post office at Union City, Tenn. Drawings and specifications, not exceeding one set, may be obtained by any satisfactory general contractor at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close February 27, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., February 4, 1931.—SEALED BIDS in triplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., February 27, 1931, for furnishing all labor and materials and performing all work for clearing site, excavation and construction of substructure of the U. S. post office, court house, etc., at Pittsburgh, Pa. Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. JAS. A. WETMORE, Acting Supervising Architect.

Bids close March 12, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., February 5, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., March 12, 1931, for furnishing all labor and materials and performing all work for the construction (except elevator) of the U. S. post office, etc., at Huntsville, Texas. Drawings and specifications, not exceeding one set, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor and provided a deposit of \$15.00 is made to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. JAS. A. WETMORE, Acting Supervising Architect.

Bids close February 24, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., January 27, 1931.—SEALED PROPOSALS will be opened in this office at 3 p. m., February 24, 1931, for furnishing the materials and performing the work required for installing one passenger elevator in the U. S. p. o., et. h., etc., at Bartlesville, Okla. All prospective bidders are hereby notified that, unless the following information has been furnished within the last year on some other project for the Treasury Department, any bid submitted in response to this advertisement must be accompanied by a statement of facts in detail of the business and technical organization of the bidder available for the contemplated work, including financial resources and building experience, etc. The United States expressly reserves the right to reject any bid in which the facts as to business and technical organization, financial resources or building experience compared with the project bid upon justify such rejection. The successful bidder will be required to furnish a performance bond of 50% of the contract price. Drawings and specifications may be obtained from this office. JAS. A. WETMORE, Acting Supervising Architect.

Bids close February 20, 1931.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, February 20, 1931, and then publicly opened, for dredging approximately 4073 cubic yards of material, place measurement, at mouth of Nandua Creek, Va., 38,600 cubic yards at mouth of Occohannock Creek, Va., 33,440 cubic yards from waterway from Tangier Sound to Ewell (Smith Island, Md.), and 41,490 cubic yards in Elk River, Md.

Bids close February 24, 1931.

### Road and Bridges

Richmond, Va.

Sealed bids will be received February 24, 1931, 10 A. M., Dept. of Highways, Richmond, Va. Rt. 10, Proj. 333, County Nansemond, Br. over Nansemond Riv. Lbs. steel traffic treads 8800, F.B.M.; Creosoted Lumber 40,200, Cu. Yds. Conc. 582, Lbs. Reinf. Steel 38,885; Lbs. struct. steel 204,400, lin. ft. untreated piles 5580, lin. ft. creosoted piles 8220, lbs. cast steel and mach'y 12,000, Rt. 14, Proj. 597, County Rockbridge, 7.4 Mi. gravel, Cu. Yds. gravel 24,463, Rt. 51, Proj. 695, County Spotsylvania, Br. over Po Riv. Cu. Yds. A Conc. 279, Lbs. reinf. steel 51,685. Details obtainable upon request.

Bids close March 3, 1931.

### Delaware Highway Work

Dover, Del.

Sealed proposals will be received by the State Highway Department at its office, Dover, Delaware, until 2 o'clock P. M., March 3rd, 1931, and at that place and time publicly opened for contracts involving the following approximate quantities:

CONTRACT 144  
MARSHALLTON BRIDGE STEEL  
SUPERSTRUCTURE  
90 Cu. Yds. Cement Concrete Base Course.  
70 Tons Amiesite Asphalt Surface Course.  
50 Cu. Yds. Class "A" Concrete.  
16,500 Lbs. Reinforcement.  
200,000 Lbs. Structural Steel.  
320 Lin. Ft. Curb Guard.  
4 Concrete Lamp Posts.  
3 M Ft. BM Creosoted Timber.  
7,000 Lbs. Misc. Steel & Bronze Bearings.  
330 Lin. Ft. Concrete & Steel Railing.  
CONTRACT 169F  
ST. GEORGES-DRAWYERS, FENCING  
4.91 MI.

1,500 Rods Woven Wire Fence.  
25 End & Intermediate Posts.  
10 Corner Posts.  
10 Entrance Gates.  
CONTRACT 173  
GEORGETOWN-MILFORD, DuPONT  
ROAD WIDENING 16.34 MI.  
4 Acres Clearing.  
4 Acres Grubbing.  
12,000 Cu. Yds. Excavation.  
6,500 Cu. Yds. Borrow.  
8,600 Cu. Yds. Cement Concrete Pavement.  
4,200 Lin. Ft.  $\frac{3}{4}$ " Expansion Joint.  
450 Cu. Yds. Class "A" Concrete.  
16,000 Lbs. Reinforcement.  
20 Lin. Ft. 12 in. Cast Iron Pipe.  
100 Lin. Ft. 18 in. Cast Iron Pipe.  
20 Lin. Ft. 20 in. Cast Iron Pipe.  
180 Lin. Ft. 15 in. C. M. Pipe.  
20 Lin. Ft. 15 in. R. C. Pipe.  
30 Lin. Ft. 18 in. R. C. Pipe.  
20 Lin. Ft. 24 in. R. C. Pipe.  
2,000 Lin. Ft. Wire Cable Guard Rail.  
6,000 Lin. Ft. Wood Shoulder Curb.  
600 Lin. Ft. Timber Piling.  
3 M Ft. BM Creosoted Timber.  
20 End Posts Attachment.

CONTRACT 174  
MILLSBORO-BRYANS STORE 5.00 MI.  
1 3-10 Acres Clearing.  
1 3-10 Acres Grubbing.  
14,000 Cu. Yds. Excavation.  
2,500 Cu. Yds. Borrow.  
7,750 Cu. Yds. Cement Concrete Pavement.  
26,400 Lin. Ft. Longitudinal Metal Joint.  
OR 26,400 Lin. Ft. Longitudinal Joint (Non-Metallic).  
4,900 Lin. Ft. Expansion Joint.  
80 Cu. Yds. Class "A" Concrete.  
1,800 Lbs. Reinforcement.  
500 Lin. Ft. 15 in. C. M. Pipe.  
90 Lin. Ft. 15 in. R. C. Pipe.  
120 Lin. Ft. 18 in. R. C. Pipe.  
90 Lin. Ft. 24 in. R. C. Pipe.  
30 Lin. Ft. 30 in. R. C. Pipe.  
30 Lin. Ft. 36 in. R. C. Pipe.  
4,000 Lin. Ft. Wood Shoulder Curb.  
CONTRACT 174A  
BRYANS STORE-HARDSCRABBLE—  
CLEARING AND GRUBBING 4.6 MI.

17 Acres Clearing.

17 Acres Grubbing.

CONTRACT 182F  
FIELDSBORO-DRAWYERS—FENCING  
4.31 MI.

1,300 Rods Woven Wire Fence.

36 Intermediate & End Posts.

12 Entrance Gates.

13 Corner Posts.

CONTRACT 183  
43RD ST. CUTOFF, WILMINGTON  
.574 MI.

2 Acres Clearing.

3-10 Acres Grubbing.

20,000 Cu. Yds. Excavation.

3,500 Cu. Yds. Borrow.

1,400 Cu. Yds. Rock Excavation.

3,325 Cu. Yds. Cement Concrete Pavement.

1,600 Lin. Ft. Expansion Joint.

500 Sq. Ft. Cement Concrete Sidewalk.

325 Cu. Yds. Class "A" Concrete.

15,000 Lbs. Reinforcement.

3,500 Lbs. Grating Castings.

400 Lin. Ft. 15 in. R. C. Pipe.

100 Lin. Ft. 18 in. R. C. Pipe.

100 Lin. Ft. 24 in. R. C. Pipe.

1,500 Lin. Ft. 4 in. Pipe Underdrain.

800 Lin. Ft. Concrete Curb.

3,000 Lin. Ft. Wood Shoulder Curb.

Performance of contract shall commence within ten (10) days after execution of the contract and be completed as specified.

In the employment of labor, preference shall be given to residents of the State of Delaware.

Monthly payments will be made for 90 per cent of the construction completed each month.

Bidders must submit proposals upon forms provided by the Department.

Each proposal must be accompanied by a surety bond, certified check or money to the amount of at least ten (10) per centum of the total amount of the proposal.

The envelope containing the proposal must be marked "Proposal for the Construction of State Highway Contract No. ...."

The contract will be awarded or rejected within twenty (20) days from the date of opening proposals.

The right is reserved to reject any or all bids.

Complete sets of plans and specifications may be obtained upon receipt of two dollars (\$2.00) for each contract, which amount will not be refunded.

### STATE HIGHWAY DEPARTMENT

Bids close February 17, 1931.

### Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS  
STATE OF MARYLAND  
STATE ROADS COMMISSION

#### NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building three sections of State Highway, as follows:  
Anne Arundel County, Cont. No. AA-112-72—Federal Aid Project No. 229—One section of State Highway from Furnace Creek, on the Annapolis Boulevard, to Marley Creek on the Annapolis Boulevard, a distance of 2.13 miles (concrete).

Carroll County, Cont. No. CI-94-54—Federal Aid Project No. 209B—One section of State Highway along the Taneytown to Pennsylvania State Line Road from the end of Contract No. CI-72 to the State Line, a distance of 1.73 miles (concrete).

Prince George's County, Cont. No. P-154-32 One section of State Highway along the Hunt's Corner to Gordon's Corner Road from the end of Contract No. P-123 to Gordon's Corner, a distance of 1.07 miles (penetration macadam).

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 17th day of February, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 3rd day of February, 1931.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.

# CLASSIFIED OPPORTUNITIES

## MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

### PHOSPHATE ROCK PROPERTY

**PHOSPHATE ROCK PROPERTY** in Tennessee For Sale—1500 acres containing approximately 3,000,000 tons brown rock and 3,000,000 tons blue rock; also plant complete for mining, washing, drying and grinding rock; 4000 tons storage shed; plenty water for washing rock. N. & C. & St. Louis R. R. siding. Sold cheap. Care FRED. G. BUSHOLD, Cregg Bldg., Lawrence, Mass.

### TIMBER OPERATION

**FOR SALE**—Complete Saw Mill with Planing Mill, Dry Kiln, and all necessary equipment, well located in South Carolina, with an abundant timber supply behind it. Capacity 30,000 ft. per day. Can be bought at a reasonable price. Address P. O. Box 1426, Norfolk, Va.

### TIMBER AND TIMBER LANDS

**ACREAGE BARGAINS**—We have several desirable tracts; some are well stocked with fast growing pine timber. Many have enough advance growth to pay a good return on the investment above carrying charges during the holding period. Let us select the tract and manage it, taking our remuneration as a percentage of net earnings.

THE JAMES D. LACEY COMPANY,  
1409 Barnett Bldg., Jacksonville, Fla.

## FARM, FRUIT AND TRUCK LANDS

**FREE homesteads**; 640-320-160; 18 states (Ark. Cal. Ore. Col. Wy. Ariz. N. M., etc.) 28 Gov. Irrigation Proj.; maps, "700 Facts"—50c. Hitchcock, 4322-67 Coliseum, N. O. La.

### OKLAHOMA

**FOR SALE**—27½ acres Rio Grande Valley irrigated land, all cultivated. 3 miles of Harlingen, on road next to be paved. Write DOLLINS & ROEX, Owners, Henryetta, Okla.

### TEXAS

**LOWER RIO GRANDE Valley** orchards and acreage at actual value. Owner's price direct to you. Send for list. ROBERTS REALTY CO., Realtors, McAllen, Tex.

**FARMS**—2000-acre improved with tenant houses, outbuildings; levee protected; pumping plant; benefit tax paid; gravel road; 6 miles out; easily financed. Plowman & Greenville, Hannibal, Mo.

## SOUTHERN ESTATE

**FOR SALE**—11-acre estate on St. Johns River opposite Jacksonville, Fla., also 12-room residence in good location, only few blocks from business center of Jacksonville. A. G. Chappell, P. O. Box 392, Jacksonville, Fla.

## MEXICAN INVESTMENTS

**MEXICO.** Reports made on investments and prospective investments for Banks, Industrial Plants, Mines and Utilities. W. R. Pender Eng. Service Corp., Post Dispatch Bldg., Houston, Texas.

## BUSINESS OPPORTUNITIES

**MANUFACTURERS**—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Earlight, St. Louis, Mo.

**SPLENDID LOCATION** and opening for dairy and stock farm. Party ready and willing, waiting to go in with proper party or will turn over to interested party.

P. JOHN HART REALTY CORP.,  
P. O. Arcade,  
Fort Myers, Fla.

## BUSINESS OPPORTUNITIES

**LONG TERM LOANS**, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

**PARTY WILL CONSIDER** constructing, financing or purchase of water works systems. Address No. 9085, care Manufacturers Record, Baltimore, Md.

## AUCTION SALE

### TRUSTEE

### AUCTION

### SALE

To Settle An Estate  
Monday, March 2nd, 1931  
at 1.30 P. M.

GREENVILLE, KENTUCKY  
In Front of the Court House Door  
2045 ACRES COAL, OIL, TIMBER  
ACRES 2045

Located in MUHLENBERG and HOPKINS COUNTIES, KENTUCKY. IN the HEART of the WESTERN KENTUCKY COAL FIELD and the NEW OIL DEVELOPMENT SECTION.

W. R. CRAWLEY, Trustee.  
Write or wire at once for descriptive catalog and log of the Coal.

LIBERTY BANK & TRUST CO., Agent

W. R. CRAWLEY, Auctioneer

Louisville, Kentucky

## RESEARCH, REPORTS, ETC.

**DEPARTMENTAL**, Statistical, Information-Research-Reports; Legislative, Treasury, Internal Revenue, Consular, Local and Foreign Markets, Labor. Federal Economics Service, 357 Munsey Bldg., Washington, D. C.

## INDUSTRIAL SURVEYS

**ENGINEERING REPORTS** on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO.,  
Woolworth Building New York City

## INDUSTRIES WANTED

**WELL-LOCATED** Southern town wants industry. Will furnish plant, moving expenses, additional capital and other concessions.

INDUSTRIAL SERVICE CORP.,  
Asheville, N. C.

## FACTORY SITES

**TWO AND ONE-QUARTER MILES** railroad frontage industrial sites for sale at Baton Rouge. Southern Land and Investment Company, Baton Rouge, La.

**INDUSTRIAL SITE** for sale, cheap for quick sale, 43 acres bordering on Atlantic Coast Line and Seaboard Airline Railways in Florence, S. C. Ideal for lumber company. Aiken & Long, Inc., Florence, S. C.

**66-ACRE Manufacturing Site** available for \$50.00 per acre. Power, labor, water, raw material plentiful. Trackage available at minimum cost. No grading required for plant site. 5-year tax exemption. Move your plant here and reduce your operating expense. CHAS. E. NEWELL, Box 305, Signal Mountain, Tenn.

## PATENT ATTORNEYS

**FREE "PATENT PARTICULARS"** Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

**PATENTS**—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

**SEYMOUR & BRIGHT**, Registered Patent Attorneys. Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service. Suite 600-4, Barrister Building, Washington, D. C.

**PATENTS--TRADEMARKS--COPYRIGHTS** Charlotte office convenient to South. PAUL B. EATON, Registered Patent Attorney, 218 Johnston Building, Charlotte, N. C., and 314 McLachlen Building, Washington, D. C.

## REPRESENTATIVES WANTED

**WE MAKE** Water Conditioning Chemicals and desire to communicate with men now active, calling on the power trade or handling boiler room specialties. Work is highly remunerative. Address No. 9080, care of Manufacturers Record, Baltimore.

## SITUATIONS WANTED

**SITUATION WANTED** by A-1 operator of trench machines, shovels, clamshells, draglines, mixers; have 20 years experience in shop and on construction work; A-1 sewer foreman. Address No. 9087, care of Manufacturers Record, Baltimore, Md.

**CONSTRUCTION SUPT.**—15 years experience as superintendent of construction on water lines, sewers, filter plants, sewage disposal, excavation, paving, concrete construction. Economical; good organizer and pusher. Can estimate and handle general business. Graduate civil engineer; married; age 36. Desire permanent connection with contractor or industrial outfit that can use this experience. Address No. 9086, care of Manufacturers Record, Baltimore, Md.

## MEN WANTED

**IF YOU ARE OPEN** to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-one years. Send only name and address for details.

R. W. BIXBY, INC.,  
103 Downtown Bldg. Buffalo, New York

## MACHINERY AND SUPPLIES

**FOR SALE**—600 Prs. Handy Rail Clamps for 16 to 30 lbs. rails. 50c pair, any size. PERSINGER SUPPLY CO.,  
Williamson, W. Va.

**ELECTRICAL MACHINERY** For Sale—Motors and Generators, A.C. and D.C. New and Rebuilt. Attractive prices. Large Stock. Write for our Price List. V. M. NUSBAUM & CO.,  
Fort Wayne, Ind.

## MACHINERY AND SUPPLIES WANTED

**WANTED**—Two water wheels and generators, 20 foot head, No. 400 and No. 500 second cubic feet; A. C. current; 2300 volts. S. Carver, 174 E. 71st St., Portland, Oregon.



Be prepared for the  
big upward turn of business!

IT is advisable to review all business literature, bring it down to date; include descriptions of improvements and new products to meet today's requirements; especially emphasizing unusual features; the services you can render.

We have facilities for producing catalogs and all kinds of business literature in our large printing plant.

LARGE PRESS RUNS — COLOR WORK  
PROMPT DELIVERIES AND CORRECT PRICES

## Manufacturers RECORD

BALTIMORE . . . . . MARYLAND

## RECEIVERS' SALE OF FURNITURE PLANT

By virtue of an order of the United States District Court for the Middle District of North Carolina, the undersigned will offer for sale at public outcry, to the best bidder, on Monday, March 9, 1931, at 12:00 o'clock M., the following property, to-wit:

The plants and all property going to make up the manufacturing plants of the Knox Furniture Manufacturing Company of High Point, North Carolina.

This company owns three manufacturing plants and a warehouse, two plants and warehouse in High Point, North Carolina, and one plant at Thomasville, North Carolina. The company manufactures a line of dining room, bed room, living room and other kinds of furniture, and particularly an article of furniture known as a "davenport." This company is a going concern and will be sold as a whole and as a going concern. It has been operated for some months under the orders of the Court by the undersigned, and the undersigned will answer any and all inquiries concerning the plant and its property, and will provide for a physical inspection by those interested.

The property will be offered for sale immediately in front of the home office of the company in the City of High Point, at the hour and date above specified, and the successful bidder will be required to make a deposit of ten per cent of such bid in cash or acceptable certified check, and the sale will be immediately reported to the Court, and if such sale shall be confirmed, the purchaser will be required to pay the balance of the purchase price without interest within five days from the date of order confirming such sale, and the purchaser will take such property as of the date of sale, subject to such changed conditions as shall be brought about by the ordinary operating of the plant from the date of sale to the date of the payment of the purchase price.

This the 2nd day of February, 1931.

C. M. VANSTORY, JR.,  
Greensboro, N. C.  
J. W. LAMBETH,  
Thomasville, N. C.  
RECEIVERS.



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### Power Bulletin 415

Showing hundreds of Rare Bargains in Oil Engine, Steam & Electric Power Equipment Now ready. You should have it; it's free for the asking.

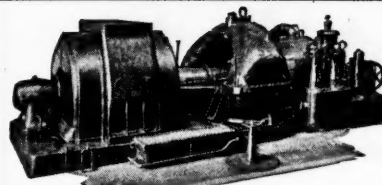
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1-120 HP Twin Cylinder Giant Crude Oil Engine, direct connected to 2300 volt A.C. Allis-Chalmers Generator. The above outfit is in excellent condition. Price \$3750.00 F.O.B. Cars Raleigh, N. C. Write:

DILLON SUPPLY CO.  
Raleigh North Carolina



10,000 KVA Turbo typical of 4 units recently delivered and similar to the following.

PRACTICALLY NEW 100% INTERNAL EXCELLENCE WESTINGHOUSE CONDENSING TURBO UNITS COMPLETE—INSTANT SHIPMENT

1-15,000 KW CW-218 Frame—1800 RPM  
1-10,000 KVA CW-118 Frame—1800 RPM  
1-7,500 KW CW-78 Frame—1800 RPM  
1-5,500 KVA CW-78 Frame—3600 RPM  
1-4,000 KVA CW-78 Frame—3600 RPM  
2-1,700 KVA CW-26 Frame—3600 RPM  
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(3 phase, 60 cycle, standard voltages)

A.S.M.E. CODE DESIGN BOILERS 200-225 lbs.

2-1500 H.P. Cross Drum B & W  
2-2650 HP Ladd Bent Tube  
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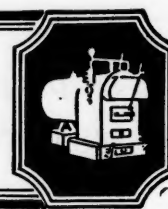


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676 cubic feet capacity Ingersoll-Rand Imperial type 10xCB, size 15" and 9 1/4" x 12", 2 stage air compressor, short belt idler drive with 100 H.P. synchronous motor.

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No. 1 1/2-21" Hilles & Jones single end punch, motor drive, cap. 1" x 3/4".  
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Used Draw Bridge Swing Span

125 ft. with 20-ft. roadway, H-10 loading complete with hand operating machinery. Must be in first class condition. Quote giving complete description, plans, and specifications.

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Rethreaded, reconditioned, guaranteed, suitable for all practical purposes, furnished with new threads and couplings, 400,000 feet in all sizes from 24" to 3/4".

Also large stock of spiral pipe, sizes 7", 10", 12", 14", 20", and 24".

Large stock of valves and fittings, screwed and flanged. Can make attractive prices.

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Second Hand and New Wrought Steel PIPE Overhauled New Threads and Couplings Also Cut to Sketch

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100,000 FEET 1-INCH USED BLACK PIPE IN 20-FOOT LENGTHS  
Good Threads and Couplings; first-class condition

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Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

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## Erie Economy Boiler

150 H.P. 150 lb. working pressure, A.S.M.E. and Stamped National Board, now in Vincennes, Indiana.

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Marion No. 32 Electric Shovel, 1½ cu. yd.; 50 hp. G. E. Motor; 3 phase, 60 cycle, 440 v. Splendid condition. Located New York City.

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35-ton, 18x20" 4-Driver Sad. Tank.  
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WE HAVE OVER FORTY LOCOMOTIVES IN STOCK. REBUILT AND READY ALL TYPES. 10 TO 100 TONS

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P&H Model 400 Dragline, ¾ yard, in good shape, ready to go. Located at Chicago plant.

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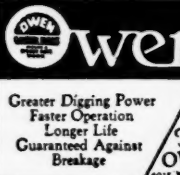
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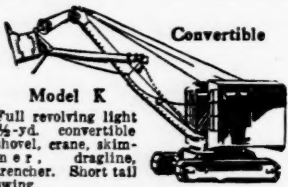
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A bucket for every digging and rehandling need . . . A size for every job.

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Bucyrus-Erie equipment is known the world over, for dependable, low-cost operation. Shovels, Draglines, Cranes—all sizes—Gas, Diesel, Electric, Gas + Air, Diesel + Air, Steam. Also Railway Cranes, Spreader Flows, etc. Write for bulletins.


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Saves time in unloading coal, ashes, castings, metal shavings, etc. Built any capacity to fit your requirements, with grey cast steel, iron, plain or rubber-tired wheels. Equipped with Hyatt Roller Bearings. The type illustrated is 27½" deep, 45½" wide with body length of 60", height overall 51½". Axles 2¼" square, front wheels 14" dia. 3" face, rear wheels 18" dia. 3½" face; capacity one cu. yd. Can be furnished with various types of couplers.

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## What does your coal cost ~ ~ f.o.b. boilers?

Not just the cost per ton in the car. Add to that your handling cost—the expense of getting the coal into your boilers, where it does its work. Every dollar saved in handling cost means just that much saved in the cost of your power.

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### *Wear 30 Years or More*

Service record of brick pavements in use in various cities includes Norwalk, O., 42nd year; Jacksonville, Fla., 41st year; Minneapolis, 33rd year; Evanston Ill., 37th year; Detroit, 30th year; Lockport, N. Y., 39th year; etc., etc.

**D**OZENS of brick streets are in their thirtieth and fortieth year of service.

A recent survey of these streets is interesting. It is studded with such footnotes as, "no maintenance as yet" . . . "excellent condition" . . . "Good for another 30 years" . . . "carries heaviest traffic". Often, engineers point out that construction methods then employed are long since obsolete.

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We manufacture all sizes of stone suitable for all classes of road building and concrete work where only a high-grade limestone is required.

Quarries opened up in 1912.

Capacity 8000 tons daily.

#### Four Quarries

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# — if you're going to make money in 1931



**W**ORN out or obsolete pavers will not earn 1931 prosperity for their owners.

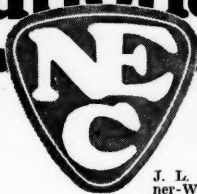
Just as the boom and bucket distribution revolutionized pavers, so the Koehring Autocycle paver revolutionizes them again.

The cost and profit figures of Koehring Autocycle operation as compared to manual operation are now in — and there's a wide profit margin in favor of the Koehring Autocycle.

Have this Autocycle profit margin and Koehring Heavy Duty construction for this year of paving opportunity. Send for catalog. Know this Autocycle Koehring.

# KOEHRING

## National Equipment Corporation

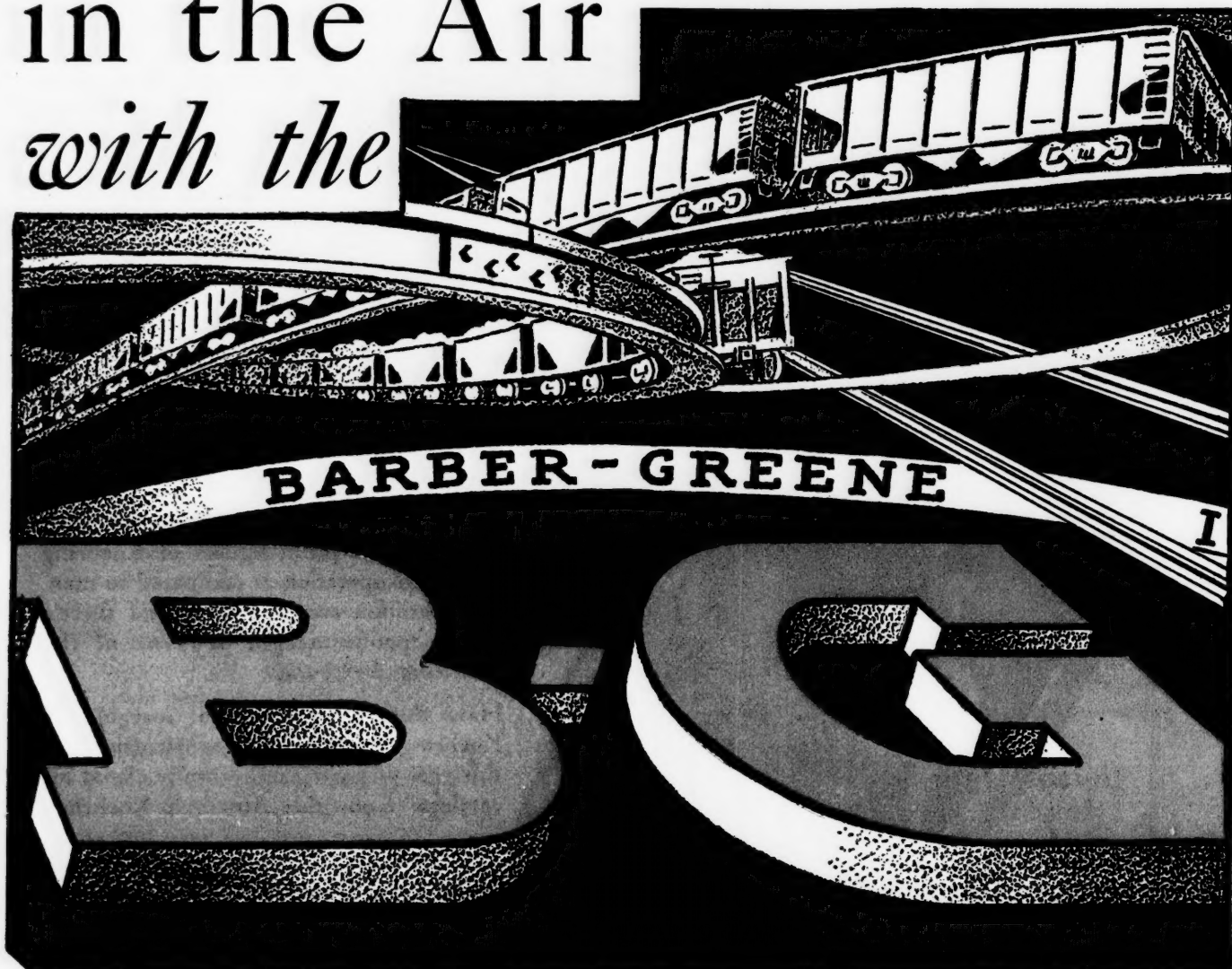


*Milwaukee*

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J. L. Hart Machinery Co., 407 Eunice Ave., Tampa, Fla.; Young & Vann Supply Co., 1725 First Ave., Birmingham, Ala.; Wilson-Weesner-Wilkinson Co., 108 Fatherland St., Nashville, Tenn.; Graham B. Bright, 901 Electric Bldg., Richmond, Va.; D. C. Elphinstone, Inc., 120 S. Calvert St., Baltimore, Md.; W. C. Caye & Co., 160 Walker St., Atlanta, Ga.; General Equipment Machinery Co., Inc., 116 N. E. Sixth St., Miami, Fla.; Carolina Contractors Equip. & Supply Co., P. O. Box 576, Columbia, S. C.

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## A New Material Moving Principle—the Stream that Almost Flows by Itself

The *B-G Idea* magically extends switch-tracks through the air, to where you want materials and aggregates to be poured. Gondola loads literally flow to where they should go.

For the new *B-G Idea* of material move-

ment creates *the stream that almost flows by itself.*

A swiftly moving belt or continuous bucket line is the only basic moving machinery. Practically nothing moves—but the fast flowing material stream.

Yet the entire principle is so simple that the finest engineering and construction can be used throughout—at very low prices.

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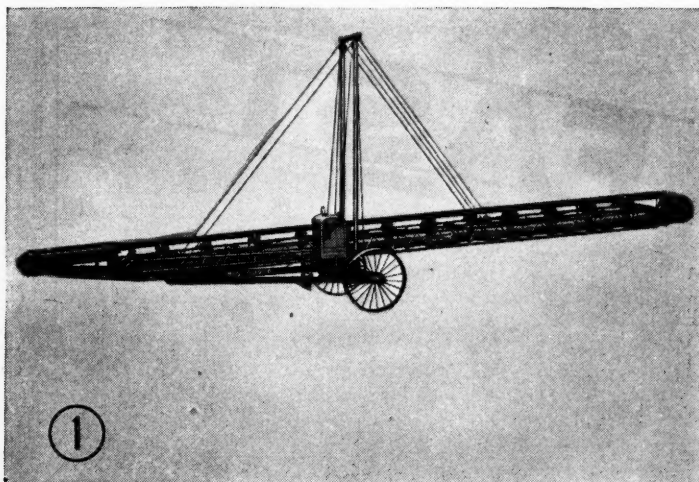


And constant application of the Barber-Greene Idea has developed a long line of machines that unload cars, and handle a wide variety of other material moving jobs, both extremely big and little.

Check that line today, in the interests of your own material problems. You will find answers that may surprise you in their speed and low cost simplicity. Ask for the Barber-Greene Line Book.

# GREENE

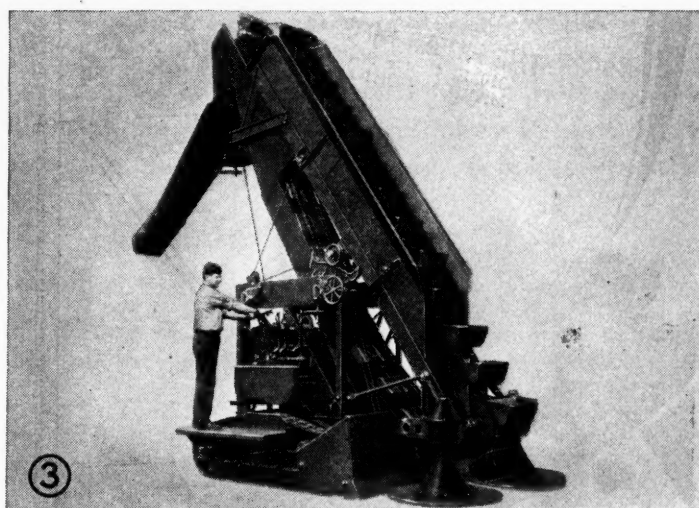
Aurora, Illinois



Barber-Greene Portable for handling wet concrete or any bulk materials.

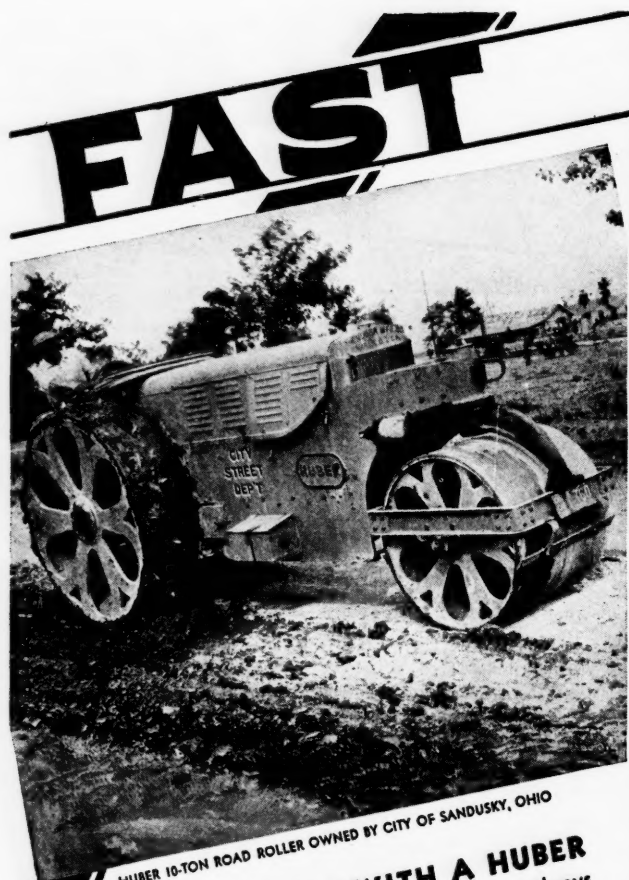


Barber-Greene Portable and Belt Car Unloader unloads aggregates from hopper cars.



The New Barber-Greene Model '62' Loader—62 cu. ft. per minute. Can be had with weigh hopper or high frequency vibrating screen.

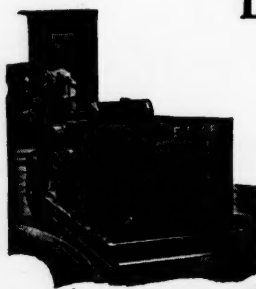
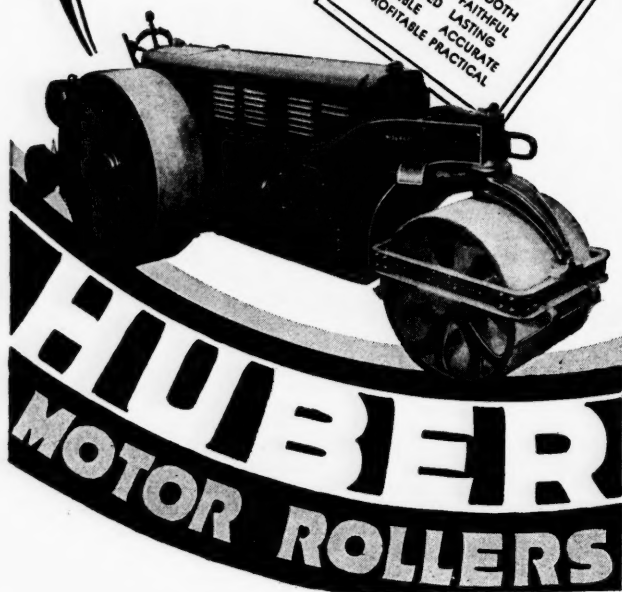
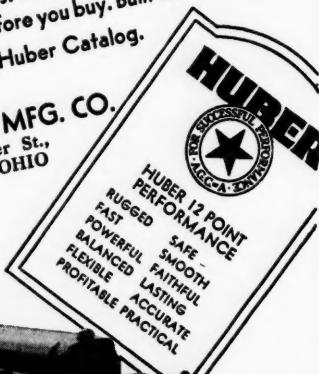
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You save hand tamping costs when you use the ERIE Roller. Roll right up to curbs, headers, manholes, and around the curves—

The ERIE turns in a shorter radius, steers more easily and has better clearance.

Write for Bulletin "M".

Erie Machine Shops  
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Le Baron, E. T., Jacksonville, Fla.

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International Derrick & Equipment Co., Columbus, Ohio.

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National Equipment Corp. (Lasley, Parsons), Milwaukee, Wis.

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Virginia Bridge & Iron Co., Roanoke, Va.

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Timken Roller Bearing Co., Canton, Ohio.

## —(Line Shaft.)

Wood's Sons Co., T. B., Chambersburg, Pa.

## —(Roller.)

Timken Roller Bearing Co., Canton, Ohio.

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Republic Rubber Co., Youngstown, Ohio.

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Dixon Crucible Co., Jos., Jersey City, N.J.

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Flexible Steel Lacing Co., Chicago, Ill.

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Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

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Butler Bin Co., Waukesha, Wis.

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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
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Combustion Engr. Corp., New York, N. Y.

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Lombard Iron Works & Supply Co., Augusta, Ga.

Schofield's Sons Co., J. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.  
Vogt Mch. Co., Henry, Louisville, Ky.

## —(Oil.)

Babcock & Wilcox Co., New York.

## —(Used.)

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O'Brien Machinery Co., Philadelphia, Pa.  
Randle Machinery Co., The, Cincinnati, O.  
Zelnicke Supply Co., W. A., St. Louis.

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Virginia Bridge & Iron Co., Roanoke, Va.  
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Sweet's Steel Co., Williamsport, Pa.

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Hanchett Bond Co., Inc., The, Chicago.  
Law & Co., A. M., Spartanburg, S. C.  
Mercantile Trust Co., Baltimore, Md.  
Norton & Co., John, Chicago, Ill.  
Provident Savings Bank and Trust Co., Cincinnati, Ohio.

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Kennedy-Riegger Drilling Co., New York City.  
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Pennsylvania Drilling Co., Pittsburgh, Pa.  
Southern Drilling Co., Saltville, Va.  
Sprague & Henwood, Inc., Scranton, Pa.

## BOXES (Paper.)

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Taylor Sons Co., Charles, Cincinnati.

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## —and Clayworking Machy.

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## —(Steel.)

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Bristol Steel & Iron Works, Inc., Bristol, Va.  
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Converse Bridge & Steel Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
International Derrick & Equipment Co., Columbus, Ohio.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Nashville Bridge Co., Nashville, Tenn.  
Virginia Bridge & Iron Co., Roanoke, Va.

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Michaels Art Bronze Co., Covington, Ky.

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Rundle-Spence Mfg. Co., Milwaukee, Wis.

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Industrial Brownholt Corp., Cleveland, O.  
Owen Bucket Co., The, Cleveland, Ohio.

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Hayward Co., The, New York, N. Y.  
Monaghan Mfg. Corp., Chicago, Ill.  
Owen Bucket Co., The, Cleveland, Ohio.  
Stuebner Iron Works, G. L., Long Island City, N. Y.

## —(Elevator.)

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Webster & Weller Mfg. Cos., Chicago.

## —(Orange Peel.)

Hayward Co., The, New York, N. Y.

## —(Ore Handling.)

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Stuebner Iron Works, G. L., Long Island City, N. Y.

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Moyer Co., Tilghman, Allentown, Pa.  
Thompson & Bros., T. C., Charlotte, N. C.  
White Engineering Corp., J. G., New York.

## BUILDINGS (Industrial.)

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Nashville Bridge Co., Nashville, Tenn.  
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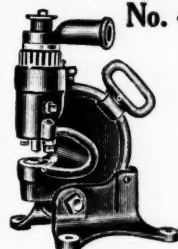
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**COKE.**  
Bloss-Sheffield Steel & Iron Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

**COLUMNS (Cast Iron.)**  
U. S. Pipe & Fdry. Co., Burlington, N. J.

**COMPRESSORS (Gasoline Extraction.)**  
Sullivan Machinery Co., Chicago, Ill.

**CONCRETE (Block Machinery.)**  
Blystone Mfg. Co., Cambridge Springs, Pa.

**—Construction (Reinforced.)**  
Cement-Gun Co., Inc., Allentown, Pa.  
Cement Gun Construction Co., Chicago.  
Rust Engineering Co., Birmingham, Ala.

**—Floor Slabs.**  
Federal-American Cement Tile Co., Chicago.

**—Information Only.**  
Portland Cement Assn., Chicago, Ill.

**—Mixers.**  
Blystone Mfg. Co., Cambridge Springs, Pa.  
Chain Belt Co., Milwaukee, Wis.  
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.  
Equipment Corp. of America, Chicago, Ill.  
Jaeger Machine Co., Columbus, Ohio.  
Lansing Co., Lansing, Mich.

**—Pipe Machinery (See Pipe Machinery, Concrete.)**

**—Placing Equipment.**  
National Equipment Corp. (Insley Division), Milwaukee, Wis.

**—Roofing Tile.**  
Federal-American Cement Tile Co., Chicago.

**CONDENSERS.**  
Ingersoll-Rand Co., New York, N. Y.  
Manitowoc Iron Works Co., Manitowish, Mich.  
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

**CONDUITS (Electric, Interior, Steel.)**  
Western Electric Co., New York, N. Y.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

**CONTRACTORS (Bridge.)**  
Kansas City Bridge Co., Kansas City, Mo.  
Snare Corp., Frederick, New York.

**—(Drainage and Dredging.)**  
Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.

**—(Electrical.)**  
Virginia Engineering Co., Inc., Newport News, Va.  
Walker Electrical Co., Atlanta, Ga.  
Warner Service Co., Knoxville, Tenn.  
Webb Electric Co., Anderson, S. C.

**—(Foundations and Dams.)**  
Snare Corp., Frederick, New York, N. Y.

**—(General.)**  
Angle-Blackford Co., Greensboro, N. C.  
Blair, Algernon, Montgomery, Ala.  
Burkes, Inc., J. V. & B. T., New Orleans.  
Cornell Young Co., Inc., Macon, Ga.  
Cowper Co., Inc., John W., Richmond, Va.  
Flake-Carter Constr. Co., Greenville, S. C.  
Gridley Constr. Co., Lee A., Knoxville, Tenn.  
Saville, Inc., Allen J., Richmond, Va.



Smallman Construction Co., Birmingham.  
Snare Corp., Frederick, New York, N. Y.  
Thompson & Bros., T. C., Charlotte, N. C.  
Tucker & Laxton, Charlotte, N. C.  
White Engineering Corp., J. G., New York.

—(Industrial Buildings.)

Angle-Blackford Co., Greensboro, N. C.  
Blair, Algernon, Montgomery, Ala.  
Cowper Co., Inc., John W., Richmond, Va.  
Flake-Carter Constr. Co., Greenville, S. C.  
Smallman Construction Co., Birmingham.  
Snare Corp., Frederick, New York, N. Y.  
Thompson & Bros., T. C., Charlotte, N. C.  
Tucker & Laxton, Charlotte, N. C.  
Virginia Engineering Co., Inc., Newport News, Va.  
White Engineering Corp., J. G., New York.

—(Mill Village.)

Hornbuckle Contracting Co., Atlanta, Ga.

—(Plastering.)

Jennings & Co., Floyd, Atlanta, Ga.

—(Power Piping.)

Poe Piping & Heating Co., Greenville, S. C.

—(Power Plants.)

Snare Corp., Frederick, New York, N. Y.  
Virginia Engineering Co., Inc., Newport News, Va.

—(Railroad.)

Cornell-Young Co., Inc., Macon, Ga.

—(Reinforced Concrete.)

Blair, Algernon, Montgomery, Ala.  
Cement Gun Construction Co., Chicago.  
Gunite Conc. & Constr. Co., Kansas City.  
Tucker & Laxton, Charlotte, N. C.

—(Road and Street Paving.)

Flake-Carter Constr. Co., Greenville, S. C.  
Gridley Constr. Co., Lee A., Knoxville, Tenn.  
Hornbuckle Contracting Co., Atlanta, Ga.  
McCrory Co., J. B., Atlanta, Ga.  
Virginia Engineering Co., Inc., Newport News, Va.

—(Sewerage and Waterworks.)

Gridley Constr. Co., Lee A., Knoxville, Tenn.

—(Hardway Contracting Co., Columbus, Ga.)

Hornbuckle Contracting Co., Atlanta, Ga.  
McCrory Co., The J. B., Atlanta, Ga.  
Snare Corp., Frederick, New York, N. Y.  
Tucker & Laxton, Charlotte, N. C.  
Virginia Engineering Co., Inc., Newport News, Va.

—(Sprinkler System.)

Poe Piping & Heating Co., Greenville, S. C.

—(Water-Works.)

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

—(Machinery and Supplies.)

Bay City Shovels, Inc., Bay City, Mich.

—(Machinery and Supplies.)

(Used.)

Adams Mch. Co., T. G., Savannah, Ga.  
Lima Excavator Sales Agency, Lima, Ohio.  
Marine Metal & Supply Co., New York.  
Phillips, Inc., Chester A., Chicago.

CONTRACT WORK WANTED.

(See following classifications.)

Boiler and Tank Work.

Castings.

Forgings.

Foundries and Machine

Shops.

Machinery (Special).

Ornamental Iron Work.

Patterns.

Sheet Metal Work.

Structural Steel and Iron.

Welding Plants.

CONVEYING AND ELEVATING

MACHINERY.

Barber-Greene Co., Aurora, Ill.  
Chain Belt Co., Milwaukee, Wis.  
Universal Crusher Co., Cedar Rapids, Ia.  
Webster & Weller Mfg. Co., Chicago.

CONVEYORS (Portable, Power-

Driven.)

Clark Tractor Co., Battle Creek, Mich.

CORNER BEAD.

Milcor Steel Company, Milwaukee, Wis.

COST SERVICE.

Le Baron, E. T., Jacksonville, Fla.

COTTON GIN MACHINERY.

Continental Gin Co., Birmingham, Ala.

COUNTING APPARATUS.

Veeder-Root, Inc., Hartford, Conn.

COUPLINGS.

Goldens' Fdy. & Mch. Co., Columbus, Ga.

—(Flexible.)

Diamond Chain & Mfg. Co., Indianapolis, Ind.

—(Shaft.)

Wood's Sons Co., T. B., Chambersburg, Pa.

CRANES

Industrial Brownhoist Corp., Cleveland, O.  
National Equipment Co., (Insley, Koehring, Parsons) Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

—(Cantilever, Gantry.)

Bedford Foundry & Machine Co., Bedford, Ind.

—(Crawler.)

Harnischfeger Corp., Milwaukee, Wis.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

—(Crawling Tractor.)

Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

—(Electric Travelling.)

Bedford Foundry & Machine Co., Bedford, Ind.  
Harnischfeger Corp., Milwaukee, Wis.  
Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.

—(Full Circle Steam and Elec-

tric.)

Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

—(Gasoline.)

Buckeye Traction Ditcher Co., Findlay, Ohio.

—(Harnischfeger Corp., Milwaukee, Wis.)

Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

—(Locomotive.)

Bucyrus-Erie Co., Erie, Penna.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)

Bay City Shovels, Inc., Bay City, Mich.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.  
Universal Crane Co., Lorain, Ohio.

—(Traveling Hand Power.)

International Derrick & Equipment Co., Columbus, Ohio.  
Wright Mfg. Co., Lisbon, Ohio.

CRAWLERS (Tractor.)

Trackson Co., Milwaukee, Wis.

CREOSOTED MATERIALS.

Amer. Creosote Wks., Inc., New Orleans.  
Delaware Wood Preserving Co., Phila.  
Savannah Creosoting Co., Savannah, Ga.

CREOSOTED TIMBER.

Ayer & Lord Tie Co., Chicago, Ill.  
Brown Wood Preserving Co., Louisville, Ky.

CREOSOTE OIL.

Amer. Creosote Wks., Inc., New Orleans.  
Ayer & Lord Tie Co., Inc., Chicago.

CREOSOTING (Wood Materials.)

Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Brown Wood Preserving Co., Louisville, Ky.  
Carolina Wood Preserving Co., Charleston, S. C.

Delaware Wood Preserving Co., Phila.

Eppinger & Russell Co., New York, N. Y.

Gulf States Creos. Co., Hattiesburg, Miss.

Savannah Creosoting Co., Savannah, Ga.

Wales Wood-Preserving Co., Norfolk, Va.

CROSS-ARMS (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Savannah Creosoting Co., Savannah, Ga.

—(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York, N. Y.

CROSS-TIES (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Ayer & Lord Tie Co., Inc., Chicago.

Carolina Wood Preserving Co., Charleston, S. C.

Eppinger & Russell Co., New York, N. Y.

Savannah Creosoting Co., Savannah, Ga.

—(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York, N. Y.

CRUSHED STONE (Road Con-

crete and Ballast.)

American Limestone Co., Knoxville, Tenn.  
Boxley & Co., W. W., Roanoke, Va.

CRUSHERS (Coal and Coke).

Fuller Lehigh Co., Fullerton, Pa.

—(Rock.)

Diamond Iron Works, Minneapolis, Minn.  
Universal Crusher Co., Cedar Rapids, Ia.

CRUSHING and Pulverizing Ma-

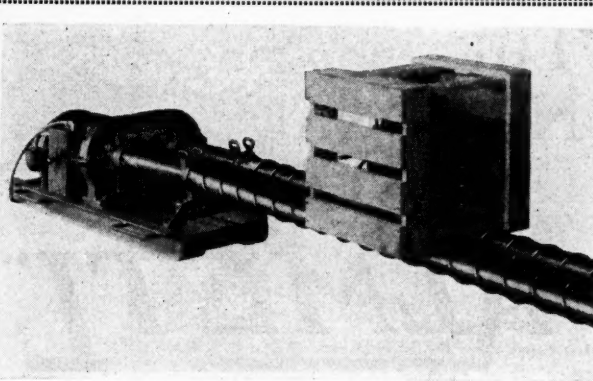
chinery.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Day Pulverizer Co., Knoxville, Tenn.

Diamond Iron Works, Minneapolis, Minn.

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Traylor Eng. & Mfg. Co., Allentown, Pa.  
Universal Crusher Co., Cedar Rapids, Ia.

**CULVERT PIPE (Cast Iron.)**  
Amer. Cast Iron Pipe Co., Birmingham.  
Cast Iron Pipe Research Assn., Chicago.  
U. S. Pipe & Foundry Co., Burlington, N.J.

—(Corrugated Metal.)  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Armco Culvert Mfrs. Assn., Middletown, O.  
Dixie Culvert & Metal Co., Atlanta, Ga.  
Dixie Culvert Mfg. Co., Little Rock, Ark.  
Louisiana Corr. Culvert Co., Baton Rouge, La.  
Tenn. Metal Culvert Co., Nashville, Tenn.  
Western Metal Mfg. Co., Houston, Texas.

**CURB PROTECTORS. (Steel Bar.)**  
Truscon Steel Co., Youngstown, Ohio.

**CUTTERS (Wire Rope.)**  
Leschen & Sons Rope Co., A., St. Louis.

**CYLINDERS (Compressed Air, Gas.)**  
National Tube Co., Pittsburgh, Pa.

**DAMPPOOFING.**  
Headley Emulsified Products Co., Philadelphia, Pa.

**DERRICKS (Oil and Water Well.)**  
International Derrick & Equipment Co., Columbus, Ohio.

**DERRICKS and Derrick Fittings.**  
Clyde Iron Works Sales Co., Duluth, Minn.  
Lidgerwood Mfg. Co., Elizabeth, N. J.  
Saugen Derrick Co., Chicago, Ill.

**DESKS (School.)**  
Andrews Co., A. H., Chicago, Ill.

**DITCHING MACHINERY.**  
Barber-Greene Co., Aurora, Ill.  
Bay City Shovels, Inc., Bay City, Mich.  
Buckeye Traction Ditcher Co., Findlay, Ohio.  
Harnischfeger Corp., Milwaukee, Wis.  
The New York N. Y.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Owen Bucket Co., The, Cleveland, O.

**DOORS (Bronze.)**  
Michaels Art Bronze Co., Covington, Ky.

—(Fire.)  
Merchant & Evans Co., Philadelphia, Pa.

—(Fireproof, Air Chamber.)  
Wilson Corp., The J. G., New York.

—(Rolling, Steel and Wood.)  
Kinneer Mfg. Co., The, Columbus, Ohio.  
Wilson Corp., The J. G., New York.

—(Steel.)  
Truscon Steel Co., Youngstown, Ohio.

—(Tubular Steel.)  
Bayley Co., Wm., Springfield, O.

—(Vault.)  
York Safe & Lock Co., York, Penna.

**DRAFTSMEN'S SUPPLIES.**  
Weber Co., Inc., F., Philadelphia, Pa.

**DRAGLINE EXCAVATORS.**  
Bucyrus-Erie Co., Erie, Penna.  
Harnischfeger Corp., Milwaukee, Wis.  
Monaghan Mfg. Corp., Chicago, Ill.  
National Equipment Corp. (Koehring, Inc.), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Sauerman Bros., Chicago, Ill.  
The Shovel Co., The, Lorain, Ohio.  
Universal Power Shovel Co., Milwaukee, Wis.

—(Walking.)  
Monaghan Mfg. Corp., Chicago, Ill.

**DREDGES (Dipper, Elevator, Hydraulic.)**  
Bay City Shovels, Inc., Bay City, Mich.  
Bucyrus-Erie Co., Erie, Pa.

**DREDGING (River and Harbor Improvement.)**  
Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.

—Machinery.  
Hayward Co., The, New York.

**DRILLING CONTRACTORS.**  
Kennedy-Riegger Drilling Co., New York City.  
Mott Core Drilling Co., Huntington, W. Va.

Myers & Sons, J. L., Decatur, Texas.  
Pennsylvania Drilling Co., Pittsburgh, Pa.  
Southern Drilling Co., Saltville, Va.  
Sprague & Henwood, Inc., Scranton, Pa.

**DRILLS (Oil and Artesian Well)**  
International Derrick & Equipment Co., Columbus, Ohio.  
Virginia Machinery & Well Co., Inc., Richmond, Va.

—Hand  
Gardner-Denver Co., Quincy, Ill.

—(Electric.)  
Gardner-Denver Co., Quincy, Ill.  
Sullivan Mch. Co., Chicago.

—(Pneumatic.)  
Gardner-Denver Co., Quincy, Ill.  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

**DRINKING FOUNTAINS.**  
Rundle-Spence Mfg. Co., Milwaukee, Wis.

**DROP-FORGING MACHINERY.**  
Bliss Co., E. W., Brooklyn, N. Y.

**DRYERS (Gravel and Sand.)**  
Ripley Fdy. & Mch. Co., Ripley, Ohio.

**DRY KILNS and Equipment.**  
Moore Dry Kiln Co., Jacksonville, Fla.

**DRYING MACHINERY.**  
American Process Co., New York, N. Y.  
Chicago Bridge & Iron Works, Chicago, Ill.

**DUMP TRUCK BODIES and HOISTS.**  
Easton Car & Construction Co., Easton, Pa.

**DUSTPROOFING (Concrete.)**  
Sonneborn Sons, Inc., L., New York.

**DYESTUFFS.**  
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

**DYNAMITE (Industrial and Agricultural.)**  
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

**ECONOMIZERS (Fuel.)**  
Babcock & Wilcox Co., New York.

**ELECTRICAL Instruments and Supplies.**  
Adam Electric Co., Frank, St. Louis.  
General Electric Co., Schenectady, N. Y.  
Western Electric Co., New York City.

—Machinery (Generators, Motors, etc., New.)  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Century Electric Co., St. Louis, Mo.  
Fairbanks, Morse & Co., Chicago, Ill.  
General Electric Co., Schenectady, N. Y.  
Rockford Power Mch. Co., Rockford, Ill.  
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

—Machinery (Generators, Motors, etc., Used.)  
Delta Equipment Co., Philadelphia, Pa.  
Electric Service Co., Cincinnati, Ohio.  
General Electric Co., Schenectady, N. Y.  
Gregory Electric Co., Chicago.  
Nussbaum & Co., V. M., Ft. Wayne, Ind.  
O'Brien Machinery Co., The, Phila., Pa.  
Randle Machinery Co., The, Cincinnati, O.  
Rockford Power Mch. Co., Rockford, Ill.

—Machinery Repairing (Motors, Generators, etc.)  
Electric Service Co., Cincinnati, Ohio.  
Gregory Electric Co., Chicago.

**ELECTRIC LIGHTING.**  
General Electric Vapor Lamp Co., Hoboken, N. J.

**ELECTRIC SHOVELS (See Shovels.)**

**ELEVATOR Cables.**  
Leschen & Sons Rope Co., A., St. Louis.

**ELEVATORS (Electric.)**  
American Elevator & Machine Co., Inc., Louisville, Ky.  
Miller Co., St. Louis, Mo.

—(Hand and Belt Power.)  
American Elevator & Machine Co., Inc., Louisville, Ky.  
Miller Co., St. Louis, Mo.

—(Hydraulic.)  
American Elevator & Machine Co., Inc., Louisville, Ky.



**ENGINEERS (Airports.)**

International Derrick & Equipment Co., Columbus, Ohio.  
Lockwood Greene Engrs., Inc., New York.  
MacElwee & Crandall, Inc., Cambridge, Mass.  
Shaw Co., Russell B., St. Louis, Mo.

**—(Appraisal.)**

Fay, Spofford & Thorndike, Boston, Mass.  
Ford, Bacon & Davis, Inc., New York.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
May, Inc., Geo. S., Chicago, Ill.  
Pender, W. R., Houston, Texas.  
Sanderson & Porter, New York, N. Y.  
Wadleigh & Bailey, Washington, D. C.  
White Engineering Corp., J. G., New York.  
Whitman, Requardt & Smith, Balto., Md.  
Wiedeman and Singleton, Inc., Atlanta.

**—(Aviation.)**

Shaw Co., Russell B., St. Louis, Mo.

**—(Bridge.)**

Atlantic Bridge Co., Greensboro, N. C.  
Billingsley, James W., New Orleans, La.  
Fay, Spofford & Thorndike, Boston, Mass.  
Freeland, Roberts & Co., Nashville, Tenn.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Hardaway Contracting Co., Columbus, Ga.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Howerton Engineering Co., Asheville, N. C.  
Southern Erectors, Inc., Tampa, Fla.  
Steel & Leiby, Knoxville, Tenn.  
Turner, C. A. P., Minneapolis, Minn.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Wheeler, Walter H., Minneapolis, Minn.  
Whitman, Requardt & Smith, Balto., Md.

**—(Chemical.)**

Barrow-Agee Laboratories, Memphis, Tenn.  
Dow & Smith, New York, N. Y.  
Moss, Jr., W. Wade, Columbus, Ga.  
Pittsburgh Testing Laboratories, Pittsburgh, Pa.  
Southern Products Corp., New Orleans.

**—(Civil.)**

Airmap Corp. of Amer., Brooklyn, N. Y.  
Charlton & Davis, Ft. Lauderdale, Fla.  
Fuller & McClintock, New York, N. Y.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Harub Engr. Co., C. N., Nashville, Tenn.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Hills Co., George B., Jacksonville, Fla.  
MacElwee & Crandall, Inc., Cambridge, Mass.  
Main, Inc., Chas. T., Boston, Mass.  
Spoon & Lewis, Greensboro, N. C.  
Steel & Leiby, Knoxville, Tenn.  
White Engineering Corp., J. G., New York.  
Whitman, Requardt & Smith, Balto., Md.

**—(Consulting.)**

Airmap Corp. of Amer., Brooklyn, N. Y.  
Charlton & Davis, Ft. Lauderdale, Fla.  
Converse & Co., J. B., Mobile, Ala.  
Cramer, Robert, Milwaukee, Wis.  
Engineering Service Corp., Houston, Tex.  
Harza Engineering Co., Chicago.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Pender, W. R., Houston, Texas.  
Smith, Elroy G., Augusta, Ga.  
Sullivan & New Sien, New York, N. Y.  
Wadleigh & Bailey, Washington, D. C.  
White Engineering Corp., J. G., New York.  
Whitman, Requardt & Smith, Balto., Md.  
Wiedeman & Singleton, Inc., Atlanta, Ga.

**—(Cost.)**

May, Inc., Geo. S., Chicago, Ill.

**—(Dams.)**

Alpaugh & Sons, Chas. W., Manassas, Va.  
Byllesby Engineering and Management Corp., Chicago, Ill.  
Gardner & Howe, Memphis, Tenn.  
Hardaway Contracting Co., Columbus, Ga.  
Harza Engineering Co., Chicago.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Lee, William S., Charlotte, N. C.  
Main, Inc., Chas. T., Boston, Mass.  
Sirls & Co., J. E., Greenville, S. C.  
Tucker & Laxton, Charlotte, N. C.  
Wheeler, Walter H., Minneapolis, Minn.  
White Engineering Corp., J. G., New York.

**—(Drainage and Irrigation.)**

Cramer, Robert, Milwaukee, Wis.  
Ford, Bacon & Davis, Inc., New York.  
Fuller & McClintock, New York, N. Y.  
Hills Co., George B., Jacksonville, Fla.  
Huey, S. E., Monroe, La.

**—(Efficiency.)**

Ernst & Ernst, New York, N. Y.  
Whitman, Requardt & Smith, Balto., Md.

**—(Electrical.)**

Engineering Service Corp., Houston, Tex.  
Hooster Engineering Co., Chicago, Ill.  
Lee, William S., Charlotte, N. C.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Mullergren, Arthur L., Kansas City, Mo.  
Sanderson & Porter, New York, N. Y.  
Tucker & Laxton, Charlotte, N. C.  
Webb Electric Co., Anderson, S. C.  
White Co., Gilbert C., Durham, N. C.  
Wiley & Wilson, Lynchburg, Va.

**—(Electric-Light and Power Plants.)**

Byllesby Engineering and Management Corp., Chicago, Ill.

Cramer, Robert, Milwaukee, Wis.  
Ford, Bacon & Davis, Inc., New York.  
Lee, William S., Charlotte, N. C.  
Main, Inc., Chas. T., Boston, Mass.  
Mullergren, Arthur L., Kansas City, Mo.  
Sanderson & Porter, New York, N. Y.  
Tucker & Laxton, Charlotte, N. C.  
White Engineering Corp., J. G., New York.  
White Co., Gilbert C., Durham, N. C.

**—(Flood Control.)**

Harza Engineering Co., Chicago.

**—(Forest.)**

Lacey & Co., Jas. D., New York, N. Y.

**—(Gas.)**

Byllesby Engineering and Management Corp., Chicago, Ill.  
Ford, Bacon & Davis, Inc., New York.  
Huey, S. E., Monroe, La.

**—(Geological.)**

De Kalb, Courtenay, New York City.  
Froehling & Robertson, Richmond, Va.  
Moss, Jr., W. Wade, Columbus, Ga.  
Wadleigh & Bailey, Washington, D. C.  
Withers, R. S., Jackson, Miss.

**—(Harbor Improvements.)**

Billingsley, James W., New Orleans, La.  
Engineering Service Corp., Houston, Tex.  
Fay, Spofford & Thorndike, Boston, Mass.

**—(Heating.)**

Pender, W. R., Houston, Texas.  
Wiley & Wilson, Lynchburg, Va.

**—(Hydraulic.)**

Alpaugh & Sons, Chas. W., Manassas, Va.  
Fuller & McClintock, New York, N. Y.  
Harza Engineering Co., Chicago.  
Main, Inc., Chas. T., Boston, Mass.  
Whitman, Requardt & Smith, Balto., Md.

**—(Hydro-electric.)**

Alpaugh & Sons, Chas. W., Manassas, Va.  
Byllesby Engineering and Management Corp., Chicago, Ill.  
Harza Engineering Co., Chicago.  
Lee, William S., Charlotte, N. C.  
Main, Inc., Chas. T., Boston, Mass.  
Sanderson & Porter, New York, N. Y.  
Sirls & Co., J. E., Greenville, S. C.  
Tucker & Laxton, Charlotte, N. C.  
White Engineering Corp., J. G., New York.  
Whitman, Requardt & Smith, Balto., Md.

**—(Ice and Refrigerating.)**

Engineering Service Corp., Houston, Tex.

**—(Industrial Plants.)**

Billingsley, James W., New Orleans, La.  
Consoer, Older & Quinlan, Inc., Chicago.  
Converse & Co., J. B., Mobile, Ala.  
Fay, Spofford & Thorndike, Boston, Mass.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Hills Co., George B., Jacksonville, Fla.  
International Derrick & Equipment Co., Columbus, Ohio.  
Lockwood Greene Engrs., Inc., New York.  
MacElwee & Crandall, Inc., Cambridge, Mass.  
Main, Inc., Chas. T., Boston, Mass.  
Mullergren, Arthur L., Kansas City, Mo.  
Preacher & Co., Inc., G. Lloyd, Atlanta.  
Sanderson & Porter, New York, N. Y.  
Sirls & Co., J. E., Greenville, S. C.  
Smith, Elroy G., Augusta, Ga.  
Turner, C. A. P., Minneapolis, Minn.  
Widmer Engineering Co., St. Louis, Mo.

**—(Industrial Survey.)**

Converse & Co., J. B., Mobile, Ala.  
Lockwood Greene Engrs., Inc., New York.  
Wadleigh & Bailey, Washington, D. C.

**—(Inspection and Tests.)**

Barrow-Agee Laboratories, Memphis, Tenn.  
Conard, William B., Burlington, N. J.  
Cramer, Robert, Milwaukee, Wis.  
Dow & Smith, New York, N. Y.  
Froehling & Robertson, Inc., Richmond, Va.  
Hunt Co., Robert W., Chicago, Ill.  
Moss, Jr., W. Wade, Columbus, Ga.  
Pender, W. R., Houston, Texas.  
Pittsburgh Testing Laboratories, Pittsburgh, Pa.  
Southwestern Laboratories, Ft. Worth, Tex.

**—(Lighting.)**

Byllesby Engineering and Management Corp., Chicago, Ill.  
Ford, Bacon & Davis, Inc., New York.  
General Electric Vapor Lamp Co., Hoboken, N. J.  
Wiley & Wilson, Lynchburg, Va.

**—(Mechanical.)**

Charlton & Davis, Ft. Lauderdale, Fla.  
Engineering Service Corp., Houston, Tex.  
Lee, William S., Charlotte, N. C.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Meigs, Bassett & Slaughter, Phila., Pa.  
Pender, W. R., Houston, Texas.  
Sanderson & Porter, New York, N. Y.  
Wiley & Wilson, Lynchburg, Va.

**—(Mining. See Engineers, Geological.)****—(Municipal.)**

Billingsley, James W., New Orleans, La.  
Consoer, Older & Quinlan, Inc., Chicago.  
Dow & Smith, New York, N. Y.

28

years ago  
installed in an  
Oklahoma Garage

18

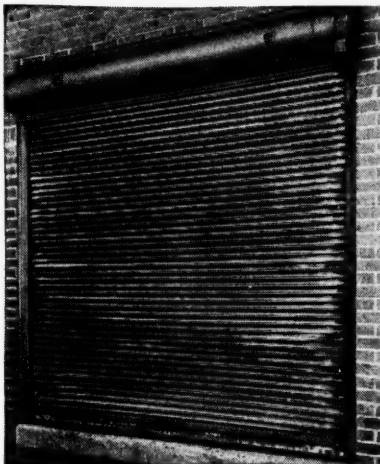
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sold by owners — at  
more than its original  
cost—and installed in  
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today

"working  
first  
class"

(see letter below)



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Oct. 27, 1920

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By F. A. Gross

Note that this letter is dated Oct. 27, 1920. This same door - after 28 years - just as Mr. Gross said 10 years ago - "it still works first class."

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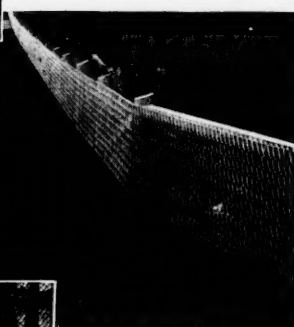
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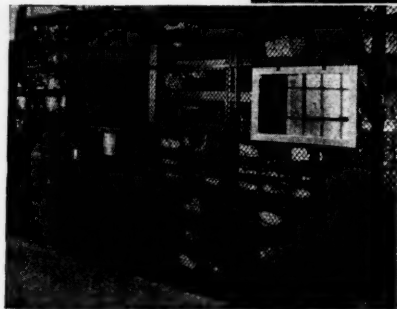
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Hills Co., George B., Jacksonville, Fla.  
Howerton Engineering Co., Asheville, N.C.  
Huey, S. E., Monroe, La.  
Knowles, Inc., Morris, Pittsburgh, Pa.  
McCrary Co., The, J. B., Atlanta, Ga.  
Spoon & Lewis, Greensboro, N. C.  
White Co., Gilbert C., Durham, N. C.

## —(Paving and Roads.)

Billingsley, James W., New Orleans, La.  
Dow & Smith, New York, N. Y.  
Freeland, Roberts & Co., Nashville, Tenn.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Howerton Engineering Co., Asheville, N.C.  
Spoon & Lewis, Greensboro, N. C.  
White Co., Gilbert C., Durham, N. C.

## —(Printing and Newspaper Plants.)

Lockwood Greene Engrs., Inc., New York.

## —(Public Service Properties.)

Bylesby Engineering & Management Corp., Chicago, Ill.  
Ford, Bacon & Davis, Inc., New York.  
Fuller & McClintock, New York, N. Y.  
Knowles, Inc., Morris, Pittsburgh, Pa.  
Main, Inc., Chas. T., Boston, Mass.  
Pender, W. R., Houston, Texas.  
Sanderson & Porter, New York, N. Y.  
White Engineering Corp., J. G., New York.

## —(Railroad.)

Huey, S. E., Monroe, La.

## —(Reinforced Concrete Bridges, Buildings, etc.)

Atlantic Bridge Co., Greensboro, N. C.  
Fay, Spofford & Thorndike, Boston, Mass.  
Freeland, Roberts & Co., Nashville, Tenn.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Steel & Leiby, Knoxville, Tenn.  
Tucker & Laxton, Charlotte, N. C.  
Turner, C. A. P., Minneapolis, Minn.  
Wheeler, Walter H., Minneapolis, Minn.

## —(Sales Analysis.)

May, Inc., Geo. S., Chicago, Ill.

## —(Sanitary.)

Cramer, Robert, Milwaukee, Wis.  
Hurza Engineering Co., Chicago.  
Whitman, Requaardt & Smith, Balto., Md.

## —(Sewage Disposal Plants.)

Cramer, Robert, Milwaukee, Wis.  
Fuller & McClintock, New York, N. Y.  
McCrary Co., The, J. B., Atlanta, Ga.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiedeman & Singleton, Inc., Atlanta.

## —(Sewerage and Waterworks.)

Conard, William E., Burlington, N. J.  
Consoer, Older & Quinlan, Inc., Chicago.  
Ford, Bacon & Davis, Inc., New York.  
Fuller & McClintock, New York, N. Y.  
Hardaway Contracting Co., Columbus, Ga.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Hills Co., George B., Jacksonville, Fla.  
Howerton Engineering Co., Asheville, N.C.  
Knowles, Inc., Morris, Pittsburgh, Pa.  
Sanderson & Porter, New York, N. Y.  
Spoon & Lewis, Greensboro, N. C.  
Tucker & Laxton, Charlotte, N. C.  
White Co., Gilbert C., Durham, N. C.  
White Engineering Corp., J. G., New York.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiedeman & Singleton, Inc., Atlanta, Ga.

## —(Structural.)

Freeland, Roberts & Co., Nashville, Tenn.  
Hedrick, Inc., Ira G., Hot Springs Nat'l Park, Ark.  
Hills Company, Geo. B., Jacksonville, Fla.  
Huey, S. E., Monroe, La.  
Lockwood Greene Engrs., Inc., New York.  
Southern Erectors, Inc., Tampa, Fla.  
Turner, C. A. P., Minneapolis, Minn.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Whitman, Requaardt & Smith, Balto., Md.

## —(Textile Mills.)

Lockwood Greene, Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Sillrine & Co., J. E., Greenville, S. C.

## —(Transmission Lines.)

Hoosier Engineering Co., Chicago, Ill.

## —(Ventilating and Heating.)

Wiley & Wilson, Lynchburg, Va.

## —(Water Supply.)

Whitman, Requaardt & Smith, Balto., Md.

## —(Engines (Compressed Air).)

Dake Engine Co., Grand Haven, Mich.

## —(Diesel Type.)

Fairbanks, Morse & Co., Chicago, Ill.

## —(Gas and Gasoline.)

Novo Engine Co., Lansing, Mich.  
Sterling Engine Co., Buffalo, N. Y.

## —(Hoisting.)

Clyde Iron Works Sales Co., Duluth, Minn.

## —(Marine.)

Fairbanks, Morse & Co., Chicago, Ill.

## —(Oil.)

Ingersoll-Rand Co., New York, N. Y.  
Continental Gin Co., Birmingham, Ala.

## —(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Cole Mfg. Co., E. D., Newnan, Ga.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Schofield's Sons Co., J. S., Macon, Ga.

## ENVELOPES.

Young & Seldon Co., Baltimore, Md.

## ESTIMATORS (Building &amp; Construction.)

Martin, Joe B., Charlotte, N. C.

## EXCAVATING MACHINERY.

Bay City Shovel, Inc., Bay City, Mich.  
Bucyrus-Erie Co., Erie, Penna.  
Clyde Iron Works Sales Co., Duluth, Minn.  
Harnischfeger Corp., Milwaukee, Wis.  
Hayward Co., The, New York, N. Y.  
Industrial Brownhoist Corp., Cleveland.  
Monaghan Mfg. Corp., Chicago, Ill.  
National Equipment Corp. (Kochring, Insley, Parsons), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Owen Bucket Co., The, Cleveland, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.  
Universal Power Shovel Co., Milwaukee, Wis.

## EXCAVATORS (Clamshell and Orange Peel.)

Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., Lorain, Ohio.

## —(Dragline. See Dragline Excavators.)

## —(Trench.)

Barber-Greene Co., Aurora, Ill.  
Bay City Shovel, Inc., Bay City, Mich.  
Buckeye Traction Ditcher Co., Findlay, Ohio.  
Bucyrus-Erie Co., Erie, Penna.  
Harnischfeger Corp., Milwaukee, Wis.  
Hayward Co., The, New York, N. Y.  
Monaghan Mfg. Corp., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Universal Power Shovel Co., Milwaukee, Wis.

## EXPANSION JOINTS (Road and Street.)

Carey Co., Philip, Lockland, Cincinnati, Ohio.  
Servicised Products Corp., Chicago, Ill.

## EXPLOSIVES.

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

## FACTORY Management Systems.

Ernst & Ernst, New York, N. Y.

## FEED-WATER HEATERS and Purifiers.

American Water Softener Co., Phila., Pa.

## FENCE POSTS (Crescoted.)

Ayer & Lord Tie Co., Chicago, Ill.

## FENCING Entrance Gates (Iron, Steel and Wire.)

American Steel and Wire Co., Balto., Md.  
Anchor Post Fence Co., Baltimore, Md.  
Cyclone Fence Co., Waukegan, Ill.  
Gulf States Steel Co., Birmingham, Ala.

## —(Field and Industrial, Wire Woven.)

American Steel and Wire Co., Balto., Md.  
Anchor Post Fence Co., Baltimore, Md.  
Cyclone Fence Co., Waukegan, Ill.  
Gulf States Steel Co., Birmingham, Ala.

## FERTILIZER MACHINERY.

Raymond Bros., Impact Pulv. Co., Chicago.

## FILTER (For Domestic and Industrial Purposes.)

American Water Softener Co., Phila., Pa.  
Bacharach & Co., E. W., Kansas City, Mo.  
International Filter Co., Chicago, Ill.  
Roberts Filter Mfg. Co., Darby (Phila.), Pa.  
Seafie & Sons Co., Wm. E., Oakmont, Pa.

## —Cloth.

Newark Wire Cloth Co., Newark, N. J.

## FINANCING.

Akers, William, Atlanta, Ga.  
Electric Bond & Share Co., New York.  
Garraway & Co., S. G., Chicago.  
Gay & Co., W. O., New York, N. Y.

## FIRE CLAY.

North American Refractories Co., Cleveland, Ohio.

## FIRE EXTINGUISHERS.

Myers & Bro. Co., The F. E., Ashland, O.

## FIREPROOF Building Material.

Bannon Pipe Co., Louisville, Ky.



**—Doors and Shutters.**

Kinnear Mfg. Co., The, Columbus, Ohio.  
Wilson Corp., The J. G., New York City.

**FITTINGS (Wire Rope.)**

Leschen & Sons Rope Co., A., St. Louis.  
Roebbing's Sons Co., John A., Trenton, N. J.

**FLANGES (Iron and Steel.)**

Amer. Cast Iron Pipe Co., Birmingham.  
Dart Mfg. Co., E. M., Providence, R. I.  
Taylor Forge & Pipe Wks., Chicago, Ill.  
U. S. Pipe & Foundry Co., Burlington, N. J.  
Vogt Machine Co., Henry, Louisville, Ky.

**—and Flanged Fittings.**

Grinnell Co., Inc., Providence, R. I.

**FLOOR (Asphalt Mastic.)**

Barber Asphalt Co., Philadelphia, Pa.

**—(Asphalt Plank.)**

Servicised Products Corp., Chicago, Ill.

**—(Cork Composition.)**

Congoleum-Nairn, Inc., Kearny, N. J.

**—(Hardwood, Maple, Oak.)**

Kirby Lumber Co., Houston, Tex.  
Nashville Hardwood Flooring Co., Nashville, Tenn.

**—(Linoleum.)**

Congoleum-Nairn, Inc., Kearny, N. J.

**—(Northern Hard Maple.)**

Holt Hardwood Co., Oconto, Wis.

**—(Open Steel.)**

Blaw-Knox Co., Pittsburgh, Pa.  
Irving Iron Works Co., Long Is. City, N. Y.  
Kerlow Steel Flooring Co., Jersey City, N. J.

**—Covering.**

Congoleum-Nairn, Inc., Kearny, N. J.

**—Hardner (Concrete.)**

Sonneborn Sons, Inc., L., New York.

**—Plates and Stair Treads.**

Central Iron & Steel Co., Harrisburg, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

**—Steel (For Concrete Culverts, Roads, Streets.)**

Blaw-Knox Co., Pittsburgh, Pa.

**—Wax.**

Congoleum-Nairn, Inc., Kearny, N. J.

**FLUSH-TANK SIPHONS.**

Faefie Flush-Tank Co., New York, N. Y.

**FORGINGS (Drop.)**

Vogt Machine Co., Henry, Louisville, Ky.

**FORM CLAMPS.**

M & M Clamp Co., Minneapolis, Minn.

**FORMS, Steel (For Concrete Culverts, Roads, Streets, Curbs, Sidewalks, Tiles.)**

Blaw-Knox Co., Pittsburgh, Pa.

**FOUNDRIES and Machine Shops.**

Deemer Steel Casting Co., New Castle, Del.  
General Machine Works, York, Pa.  
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.  
Goldens' Fdry. & Mch. Co., Columbus, Ga.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Mountain State Steel Foundries, Parkersburg, W. Va.  
Richmond Foundry & Mfg. Co., Richmond, Va.

**FOUNDRY Equipment and Supplies.**

Chain Belt Co., Milwaukee, Wis.  
Hill & Griffith Co., Cincinnati, O.

**—Facings (Talc and Soapstone.)**

Hill & Griffith Co., Cincinnati, O.

**FURNACE LININGS.**

North American Refractories Co., Cleveland, Ohio.

**FURNACES (Industrial.)**

Combustion Engr. Corp., New York City.

**—(Water-Cooled.)**

Combustion Engr. Corp., New York City.  
Fuller Lehigh Co., Fullerton, Pa.

**GALVANIZED Products.**

Birmingham Galvanizing Co., Birmingham, Ala.  
Cattle & Bros., Jos. P., Philadelphia, Pa.  
International Derrick & Equipment Co., Columbus, Ohio.

**—Steel and Iron.**

American Rolling Mill Co., Middletown, O.  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Granite City Steel Co., Granite City, Ill.  
Republic Steel Corp., Youngstown, Ohio.

**GALVANIZING (Cadmium Plating.)**

Birmingham Galvanizing Co., Birmingham, Ala.

**—(Hot Dip.)**

Bessemer Galvanizing Works, Birmingham, Ala.  
Birmingham Galvanizing Co., Birmingham, Ala.  
Cattle & Bros., Jos. P., Philadelphia, Pa.  
Newport News Shipbuilding & Drydock Co., Newport News, Va.

**GARAGES (Metal.)**

International Derrick & Equipment Co., Columbus, Ohio.

**GAS HOLDERS.**

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Works, Atlanta, Ga.

**—Producers.**

Gas-O-Flame Stove Works, Fort Deposit, Md.  
Wood & Co., R. D., Philadelphia, Pa.

**GASOLINE and KEROSENE.**

Gulf Refining Co., Pittsburgh, Pa.

**GASOLINE SHOVELS (See Shovels.)****GATES (Automatic Drainage.)**

Armed Culvert Mfrs. Assn., Middletown, O.  
Dixie Culvert & Metal Co., Atlanta, Ga.  
Dixie Culvert Mfg. Co., Little Rock, Ark.  
Louisiana Corr. Culvert Co., Baton Rouge, La.  
Tenn. Metal Culvert Co., Nashville, Tenn.  
Western Metal Mfg. Co., Houston, Texas.

**GEARS.**

DeLaval Steam Turbine Co., Trenton, N. J.  
Farle Gear & Machine Co., Phila., Pa.  
General Electric Co., Schenectady, N. Y.  
Woods' Sons Co., T. B., Chambersburg, Pa.

**—(Worm Reduction.)**

DeLaval Steam Turbine Co., Trenton, N. J.

**GENERATORS, MOTORS (New.)**

Century Electric Co., St. Louis, Mo.  
General Electric Co., Schenectady, N. Y.  
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

**—(Used.)**

Gregory Electric Co., Chicago.  
O'Brien Machinery Co., Phila., Pa.  
Randle Machinery Co., The, Cincinnati, O.

**GEOLOGISTS. (See Engineers Geological.)****GLASS (Art.)**

Hires Turner Glass Co., Philadelphia, Pa.

**—(Plate.)**

Blue Ridge Glass Corp., Kingsport, Tenn.  
Hires Turner Glass Co., Philadelphia, Pa.  
Southwestern Sheet Glass Co., Okmulgee, Okla.

**—(Window.)**

Blue Ridge Glass Corp., Kingsport, Tenn.  
Hires Turner Glass Co., Philadelphia, Pa.  
Southwestern Sheet Glass Co., Okmulgee, Okla.

**—(Wire.)**

Blue Ridge Glass Corp., Kingsport, Tenn.  
Hires Turner Glass Co., Philadelphia, Pa.  
Southwestern Sheet Glass Co., Okmulgee, Okla.

**GRADERS (Elevating.)**

Adams Co., J. D., Indianapolis, Ind.  
Caterpillar Tractor Co., Peoria, Ill.

**—(One Man Motor.)**

Adams Co., J. D., Indianapolis, Ind.

**—(Leaning Wheel Road.)**

Adams Co., J. D., Indianapolis, Ind.

**GRAPHITE.**

Dixon Crucible Co., Jos., Jersey City, N. J.

**GRATES and Grate Bars.**

Schofield's Sons Co., J. S., Macon, Ga.  
Vogt Machine Co., Henry, Louisville, Ky.

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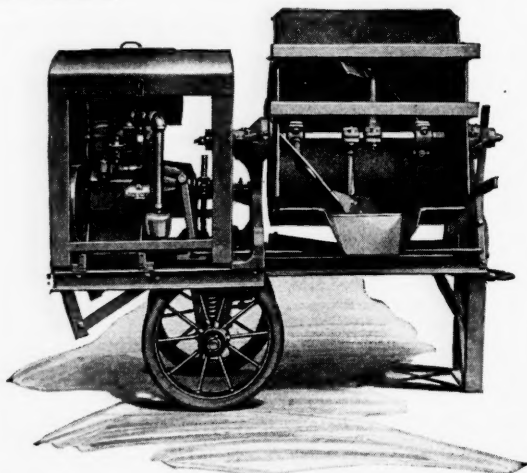
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## PLASTER—MORTAR—CONCRETE

WITH THE

# BLYSTONE THRUADOOR

Mixing by hand is OBSOLETE and EXPENSIVE. The Blystone Thru-A-Door is a small mixer that can be taken to any part of the job INSIDE or OUTSIDE. Can be moved from one floor to another. It can be economically used on SMALL mixing jobs and will make a big saving on a large mixing job. You can save money mixing Plaster, Mortar or Concrete with a Blystone Thru-A-Door Mixer.



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Electric and acetylene welding and cutting.

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Blaw-Knox Co., Pittsburgh, Pa.  
Hendrick Mfg. Co., Carbondale, Pa.  
Irving Iron Works, Long Is. City, N. Y.  
Kerlow Steel Flooring Co., Jersey City, N. J.

#### GRAVEL (Roofing and Road.)

American Limestone Co., Knoxville, Tenn.  
Arundel Corp., The, Baltimore, Md.  
Boxley & Co., W. W., Roanoke, Va.  
Friend & Co., Inc., Petersburg, Va.  
Georgia Sand & Gravel Co., Augusta, Ga.

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#### GRILLES (Brass, Bronze, Steel, etc.)

Manhattan Perforated Metal Co., Inc.  
Long Island City, N. Y.

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#### —Wheels.

Carborundum Co., Niagara Falls, N. Y.

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Gunite Constr. Co., New York City.  
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Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

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Wright Mfg. Co., Lisbon, Ohio.

#### —(Electric.)

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Harnischfeger Corp., Milwaukee, Wis.  
Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.  
Novo Engine Co., Lansing, Mich.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

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Clyde Iron Works Sales Co., Duluth, Minn.  
Dake Engine Co., Grand Haven, Mich.  
Equipment Corp. of America, Chicago, Ill.  
National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.  
Novo Engine Co., Lansing, Mich.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

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Owensboro Sewer Pipe Co., Owensboro, Ky.

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Randle Machinery Co., The, Cincinnati, O.  
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Jaeger Machine Co., Columbus, Ohio.

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—(Deep Well.)  
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Layne & Bowler, Inc., Memphis, Tenn.  
Luitwieler Pumping Engine Co., Rochester, N. Y.  
Novo Engine Co., Lansing, Mich.

—(Diaphragm.)  
Novo Engine Co., Lansing, Mich.

—(Hydraulic.)  
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

—(Power.)  
Sterling Engine Co., Buffalo, N. Y.

—(Pulverized Coal.)  
Fuller Lehigh Co., Fullerton, Pa.

—(Sand and Dredging.)  
Erie Pump & Engine Wks., Medina, N. Y.  
Georgia Iron Works, Augusta, Ga.

—(Steam.)  
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
Fairbanks, Morse & Co., Chicago, Ill.  
Ingersoll-Rand Co. (A. S. Cameron Steam Works), New York, N. Y.

—(Vacuum.)  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

—(Water Works.)  
Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.

**PUNCHING AND SHEARING MACHINERY.**  
Bliss Co., E. W., Brooklyn, N. Y.  
Whitney Metal Tool Co., Rockford, Ill.

**RACK RAKES.**  
Newport News Shipbuilding & Drydock Co., Newport News, Va.

**RADIATOR ENCLOSURES.**  
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

**RADIATORS (Gas Steam.)**  
Williams Radiator Co., Los Angeles, Calif.

**RAILINGS (Iron Pipe.)**  
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—(and Grilles, Iron and Brass. (Banks and Offices.)  
Ludlow Saylor Wire Co., St. Louis, Mo.

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International Derrick & Equipment Co., Columbus, Ohio.  
Robinson & Orr, Pittsburgh, Pa.

—(Equipment and Supplies (Used.)  
Levi & Co., Henry, Philadelphia, Pa.  
Smith & Co., W. M., Birmingham, Ala.  
Southern Iron and Equip. Co., Atlanta.  
Zelnicke Supply Co., W. A., St. Louis.

—(Frogs and Switches.)  
Bethlehem Steel Co., Bethlehem, Pa.  
Koppel Ind. Car & Equip. Co., Koppel, Pa.  
Robinson & Orr, Pittsburgh, Pa.

**RAILROADS — (Offering Industrial, Agricultural and Commercial Opportunities.)**  
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Central of Georgia Rwy., Savannah, Ga.  
Missouri-Kansas-Texas Lines, Dallas, Tex.  
Model Land Company, Flagler System, St. Augustine, Fla.  
Norfolk & Western Railway, Roanoke, Va.  
Tennessee Central Railway, Nashville.

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Carnegie Steel Co., Pittsburgh, Pa.  
Levi & Co., Henry, Philadelphia, Pa.  
Perry, Buxton, Doane Co., Philadelphia.  
Robinson & Orr, Pittsburgh, Pa.  
Smith & Co., W. M., Birmingham, Ala.  
Southern Iron & Equip. Co., Atlanta, Ga.  
Sweet's Steel Co., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Zelnicke Supply Co., W. A., St. Louis.

**RAILWAYS (Industrial.)**  
Easton Car & Construction Co., Easton, Pa.  
Koppel Ind. Car & Equip. Co., Koppel, Pa.

—(Marine.)  
Charleston Dry Dock and Machine Co., Charleston, S. C.

**RECEPTACLES (Self-Closing — Waste Paper.)**  
Whitaker Paper Co., Baltimore, Md.

**REELS and SPOOLS. (Pressed Metal.)**  
American Pulley Co., Philadelphia, Pa.

**REFRACORIES.**  
Harrison-Walker Refractories Co., Pittsburgh, Pa.  
North American Refractories Co., Cleveland, Ohio.  
Taylor Sons Co., Charles, Cincinnati.

**REFRIGERATING Machinery (See Ice and Refrigerating Machinery and Supplies.)**

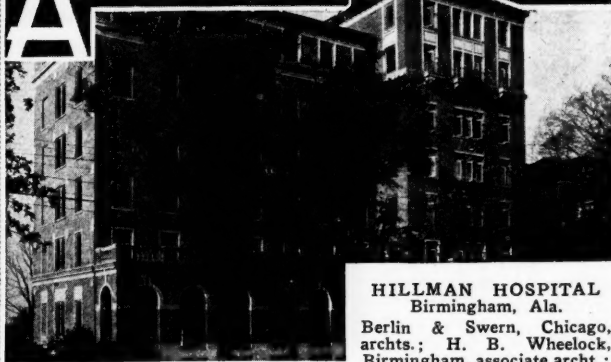
**REINFORCING for Concrete.**  
American Steel and Wire Co., Balto., Md.  
Carnegie Steel Co., Pittsburgh, Pa.  
Connors Steel Co., Birmingham, Ala.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Knoxville Iron Co., Knoxville, Tenn.  
Byerson & Son, Inc., Jos. T., St. Louis and New York.  
Southern Engineering Co., Charlotte, N. C.  
Truscon Steel Co., Youngstown, Ohio.

**RIVER & HARBOR IMPROVEMENTS. (Dredging, Docks Wharves, etc.)**  
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Atlantic Gulf and Pacific Co., New York.  
Kansas City Bridge Co., Kansas City.

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Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

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Adams Co., J. D., Indianapolis, Ind.  
Austin-Western Road Machy. Co., Chicago.  
Blaw-Knox Co., Pittsburgh, Pa.  
Buffalo-Springfield Roller Co., Springfield, O.  
Caterpillar Tractor Co., Peoria, Ill.  
Erie Machine Shops, Erie, Pa.  
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Huber Mfg. Co., The, Marion, Ohio.  
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Erdie Perforating Co., Rochester, N. Y.

Hendrick Mfg. Co., Carbondale, Pa.

Ludlow Saylor Wire Co., St. Louis, Mo.

Mundt & Sons, Charles, Jersey City, N. J.

Universal Crusher Co., Cedar Rapids, Ia.

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Republic Steel Corp., Youngstown, Ohio.

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Bucyrus-Erie Co., Erie, Penna.

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Insley), Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.

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Thew Shovel Co., The, Lorain, Ohio.

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Wis.

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Atlanta and West Point R. R., Atlanta.

Brown & Co., Chattanooga, Tenn.

Central of Georgia Rwy., Savannah, Ga.



Fort Worth Chamber of Commerce, Fort Worth, Texas.  
Galveston, City of, Galveston, Texas.  
Georgia Power Co., Atlanta, Ga.  
Jacksonville, City of, Jacksonville, Fla.  
Missouri-Kansas-Texas Lines, Dallas, Tex.  
Model Land Company, (Flagler System), St. Augustine, Fla.  
New Orleans Ch. of Com., New Orleans, La.  
Norfolk-Portsmouth Ch. of Commerce Norfolk, Va.  
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Tennessee Central Railway, Nashville.  
Texas Power & Light Co., Dallas, Texas.

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Woodstock Slag Corp., Birmingham, Ala.  
**—(Furnace.)**  
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Woodstock Slag Corp., Birmingham, Ala.

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Republic Steel Corp., Youngstown, Ohio.  
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**—(Wire—All Kinds.)**  
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Downingtown Iron Works, Downingtown, Pa.  
Hammond Iron Works, Warren, Pa.  
Hedges Walsh Weldner Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
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**STAIR Steps (Safety.)**  
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**—Treads.**  
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Chicago Bridge & Iron Works, Atlanta, Ga.  
Hammond Iron Works, Warren, Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

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Young & Selden Co., Baltimore, Md.

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Thew Shovel Co., The, Lorain, Ohio.

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Mueller Co., Decatur, Ill.

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Central Iron & Steel Co., Harrisburg, Pa.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Republic Steel Corp., Youngstown, Ohio.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

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**—(Cold Rolled.)**  
American Steel & Wire Co., Balto., Md.

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Ingalls Iron Works Co., Birmingham, Ala.  
International Derrick & Equipment Co., Columbus, Ohio.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
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Bristol Steel & Iron Works, Inc., Bristol, Va.

Carolina Steel & Iron Co., Greensboro, N. C.  
Central Iron & Steel Co., Harrisburg, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Works, Atlanta, Ga.  
Combustion Engr. Corp., New York City.  
Hammond Iron Works, Warren, Pa.  
Hedges Walsh Weldner Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
Lancaster Iron Works, Inc., Lancaster, Pa.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Taylors Engr. & Mfg. Co., Allentown, Pa.

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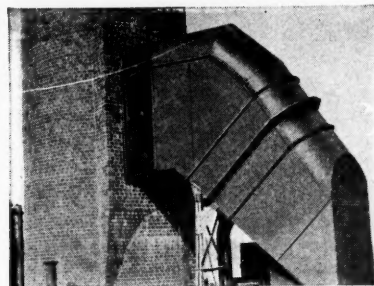
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Carolina Steel & Iron Co., Greensboro, N. C.  
Champion Bridge Co., Wilmington, Ohio.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Converse Bridge & Steel Co., Chattanooga, Tenn.  
Dietrich Brothers, Baltimore, Md.  
Eichleay, Jr., Co., John, Pittsburgh, Pa.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Nashville Bridge Co., Nashville, Tenn.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Republic Steel Corp., Youngstown, Ohio.  
Roanoke Iron & Bridge Works, Inc., Roanoke, Va.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
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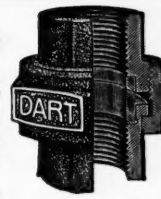
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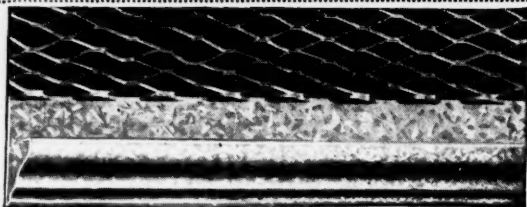
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Downingtown Iron Works, Downingtown, Pa.  
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Ingalls Iron Works Co., Birmingham, Ala.  
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Titusville Iron Works Co., Titusville, Pa.

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—(Wood.)  
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Davis & Son, G. M., Palatka, Fla.  
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Okonite Co., New York, N. Y.

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Atlanta Terra Cotta Co., Atlanta, Ga.

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—(Cork Flooring.)  
Congoleum-Nairn, Inc., Kearny, N. J.

—(Floor.)  
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—(Roof.)  
Hood Co., B. Mifflin, Daisy, Tenn.

—(Sewer.)  
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Amer. Creosoting Co., Inc., Louisville, Ky.  
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Bethlehem Steel Co., Bethlehem, Pa.  
Granite City Steel Co., Granite City, Ill.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

**TOBACCO MACHINERY.**  
Ripley Foundry & Machine Co., Ripley, O.

**TOOLS (Measuring.)**  
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Bessemer Galvanizing Works, Birmingham.  
International Derrick & Equipment Co., Columbus, Ohio.  
Nashville Bridge Co., Nashville, Tenn.

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Bessemer Galvanizing Works, Birmingham.  
International Derrick & Equipment Co., Columbus, Ohio.

—(Steel and Wood.)  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Cole Mfg. Co., R. D., Newnan, Ga.

**TRACK (Portable or Permanent.)**  
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Sweet's Steel Co., Williamsport, Pa.

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Moon Track Co., Chicago, Ill.

**TRACTORS (Industrial.)**  
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Clark Tractor Co., Battle Creek, Mich.  
Cleveland Tractor Co., Cleveland, Ohio.  
International Harvester Co. of America, Inc., Chicago, Ill.

—(Road.)  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Caterpillar Tractor Co., Peoria, Ill.  
Cleveland Tractor Co., Cleveland, Ohio.

**TRAILERS. (Four Wheel.)**  
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Electric Wheel Co., Quincy, Ill.

—(Industrial.)  
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Electric Wheel Co., Quincy, Ill.

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Electric Wheel Co., Quincy, Ill.

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**TRANSFORMERS.**  
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McClintic-Marshall Co., Pittsburgh, Pa.



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Patent Scaffolding Co., Chicago, Ill.**TRI-SODIUM PHOSPHATE.**  
Grasselli Chemical Co., Inc., Birmingham.**TRUCK CRANES.**  
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Moore Dry Kiln Co., Jacksonville, Fla.**—(Industrial.)**Atlas Car & Mfg. Co., The Cleveland, O.  
Lansing Co., Lansing, Mich.**—(Motor.)**International Harvester Co., of America,  
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tory, etc.)**American Pulley Co., Philadelphia, Pa.  
Clark Tractor Co., Battle Creek, Mich.  
Electric Wheel Co., Quincy, Ill.**TUBES (Boiler.)** See Boiler  
Tubes.**TUBING (Seamless Steel.)**  
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DeLaval Steam Turbine Co., Trenton, N.J.  
General Electric Co., Schenectady, N.Y.  
Westinghouse Elec. & Mfg. Co., E. Pitts-  
burgh, Pa.**TURNBUCKLES.**Russell, Burdall & Ward Bolt & Nut  
Co., Port Chester, N. Y.**TURNABLES.**American Bridge Co., New York, N. Y.  
Easton Car & Construction Co., Easton, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.**—(Portable for Motor Trucks.)**  
Blaw-Knox Co., Pittsburgh, Pa.**UNIONS.**

Dart Mfg. Co., E. M., Providence, R. I.

**UNIT HEATERS.**

Grinnell Co., Inc., Providence, R. I.

**—VALVES.**Ludlow Valve Mfg. Co., The, Troy, N. Y.  
Lunkenheimer Co., The, Cincinnati, Ohio.  
Merco Nordstrom Valve Co., San Fran-  
cisco, Cal.  
Mueller Co., Decatur, Ill.  
Vogt Brothers Mfg. Co., Louisville, Ky.  
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Westinghouse Traction Brake Co., Wil-  
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**—(Gate.)**Ludlow Valve Mfg. Co., The, Troy, N. Y.  
Lunkenheimer Co., The, Cincinnati, Ohio.  
Wood & Co., R. D., Philadelphia, Pa.**VAULTS (Bank and Safe De-  
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York Safe &amp; Lock Co., York, Penna.

**VENTILATORS (Roof.)**Merchant & Evans Co., Philadelphia, Pa.  
Milcor Steel Co., Milwaukee, Wis.**WARDROBES (Hygienic,  
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CLOCKS.**Davis-Paradis Watchman's Clock Corp.,  
New York, N. Y.  
Kaiser Clock Co., L. E., Balto., Md.**WATERPROOFING (For Brick,  
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Headley Emulsified Products Co., Phila-  
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Servicised Products Corp., Chicago, Ill.  
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Seale & Sons, Wm. B., Oakmont, Pa.  
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International Filter Co., Chicago, Ill.  
Southern Products Corp., New Orleans, La.**—Works Supplies and Appli-  
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Glamorgan Pipe & Fdry. Co., Lynchburg,  
Va.Leadite Co., The, Philadelphia, Pa.  
Mueller Co., Decatur, Ill.  
U. S. Pipe & Foundry Co., Burlington, N.J.  
Wood & Co., R. D., Philadelphia, Pa.**WELDING APPARATUS (Elec-  
tric Arc.)**General Electric Co., Schenectady, N. Y.  
Westinghouse Elec. & Mfg. Co., E. Pitts-  
burgh, Pa.**WELL CONTRACTORS (Oil,  
Artesian, etc.)**

Virginia Machy. &amp; Well Co., Richmond, Va.

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Sterling Wheelbarrow Co., Milwaukee.**WHEEL PRESSES (Hydraulic.)**

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(Metal.)**Bayley Co., The William, Springfield, O.  
Truscon Steel Co., Youngstown, Ohio.**WINDOWS (Bronze Casement.)**

Michaels Art Bronze Co., Covington, Ky.

**—(Steel Casement, Casement.)**Bayley Co., The William, Springfield, O.  
Milcor Steel Co., Milwaukee, Wis.**—(Steel Pivoted, Screened.)**

Bayley Co., The William, Springfield, O.

**—(Ventilating.)**

Bayley Co., The William, Springfield, O.

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Ryerson & Son, Inc., Jos. T., St. Louis  
and New York.  
Seneca Wire & Mfg. Co., Fostoria, O.**—(Barbed Wire, etc.)**American Steel & Wire Co., Balto., Md.  
Gulf States Steel Co., Birmingham, Ala.  
Youngstown Sheet & Tube Co., Youngs-  
town, Ohio.**—(Fence.)**Anchor Post Fence Co., Baltimore, Md.  
Cyclone Fence Co., Waukegan, Ill.**—(Flat and Round.)**American Steel & Wire Co., Balto., Md.  
Roebbing's Sons Co., John A., Trenton, N.J.  
Seneca Wire & Mfg. Co., Fostoria, O.**—(Galvanized and Annealed.)**American Steel & Wire Co., Balto., Md.  
Gulf States Steel Co., Birmingham, Ala.  
Seneca Wire & Mfg. Co., Fostoria, Ohio.**—Cloth (Iron, Steel, Copper,  
Brass, etc.)**Harrington & King Perf. Co., Chicago.  
Ludlow Saylor Wire Co., St. Louis, Mo.  
Newark Wire Cloth Co., Newark, N. J.  
Roebbing's Sons Co., John A., Trenton,  
N. J.  
Seneca Wire & Mfg. Co., Fostoria, O.**—Goods.**

Cyclone Fence Co., Waukegan, Ill.

**—Netting.**

Ludlow Saylor Wire Co., St. Louis, Mo.

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ing, Haulage.)**American Steel & Wire Co., Chicago, Ill.  
Broderick & Bascom Rope Co., St. Louis.  
Leschen & Sons Rope Co., A., St. Louis.  
Roebbing's Sons Co., John A., Trenton, N.J.**—Rope Clips.**American Steel & Wire Co., Balto., Md.  
Broderick & Bascom Rope Co., St. Louis.**—Stapling.**

Seneca Wire &amp; Mfg. Co., Fostoria, O.

**—(Telephone and Telegraph.)**

American Steel &amp; Wire Co., Balto., Md.

**—(Welding.)**

American Steel &amp; Wire Co., Chicago, Ill.

Roebbing's Sons Co., John A., Trenton, N.J.

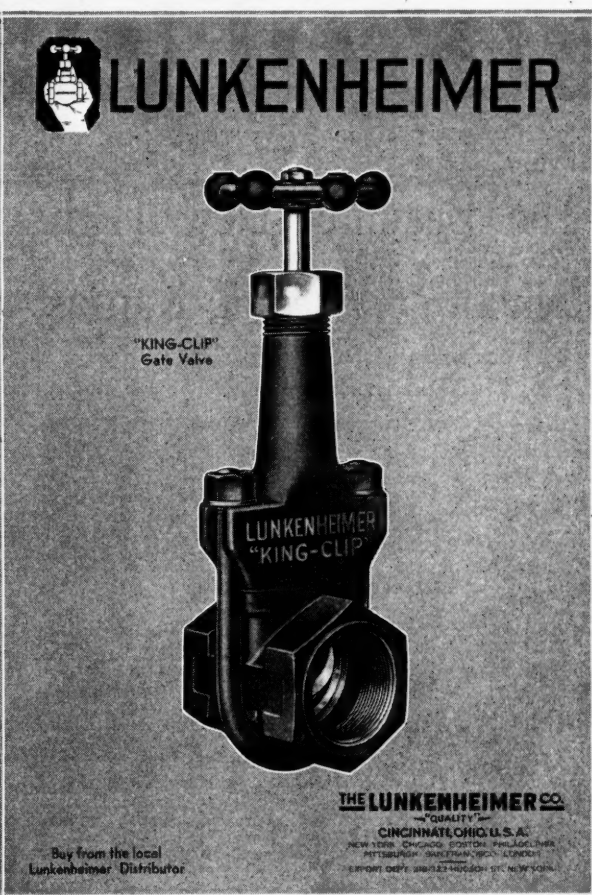
Seneca Wire &amp; Mfg. Co., Fostoria, Ohio.

**WOOD (Preserved.)**

Delaware Wood Preserving Co., Phila.

**ZINC CHLORIDE.**

Grasselli Chemical Co., Inc., Birmingham.

**ZINC META ARSENITE (Wood  
Preservative.)**Curtin-Howe Corp., New York City.  
Gulf States Creos. Co., Hattiesburg, Miss.


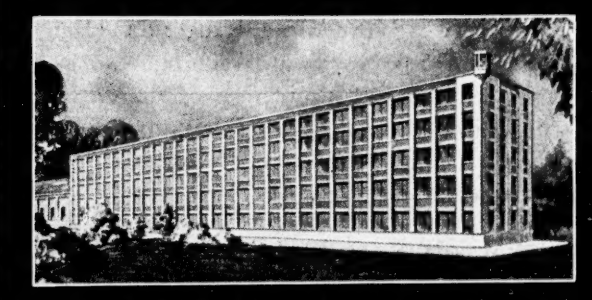
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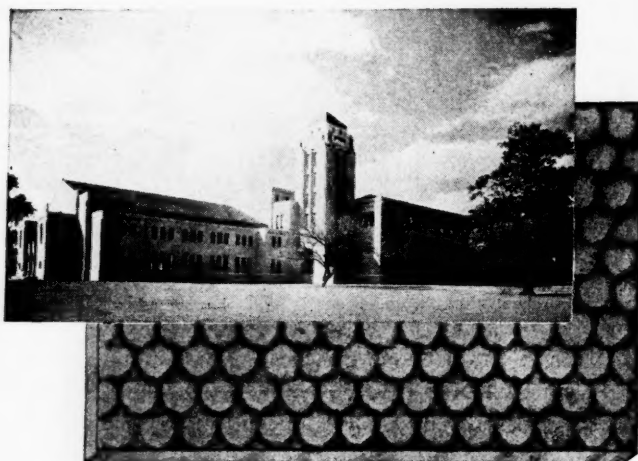
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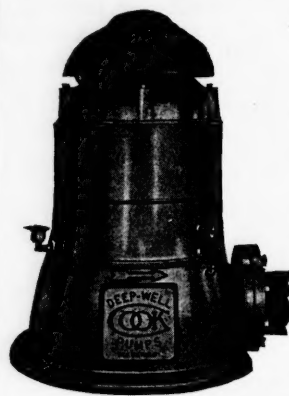
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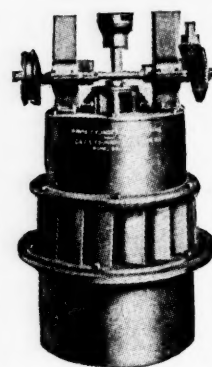
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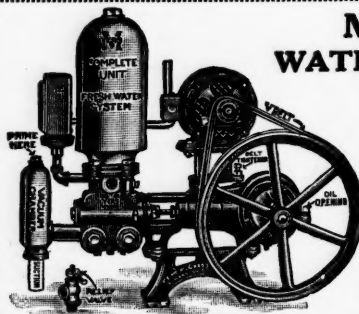
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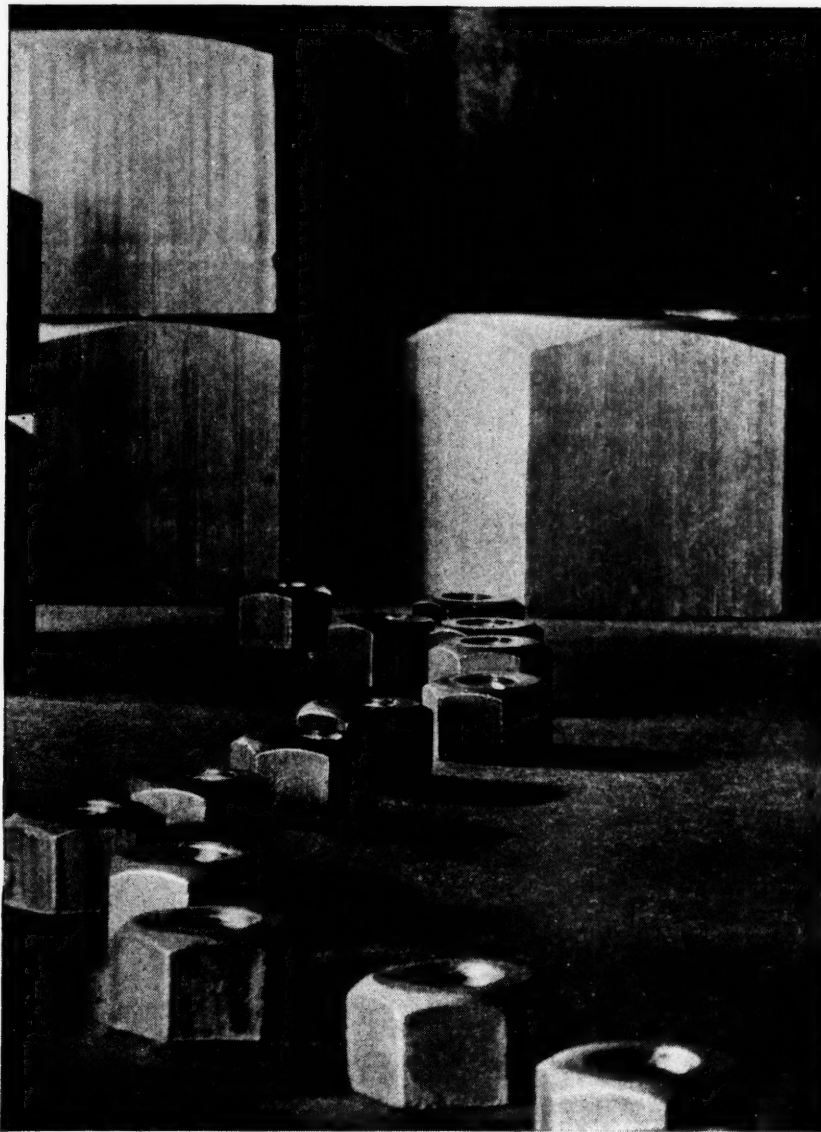
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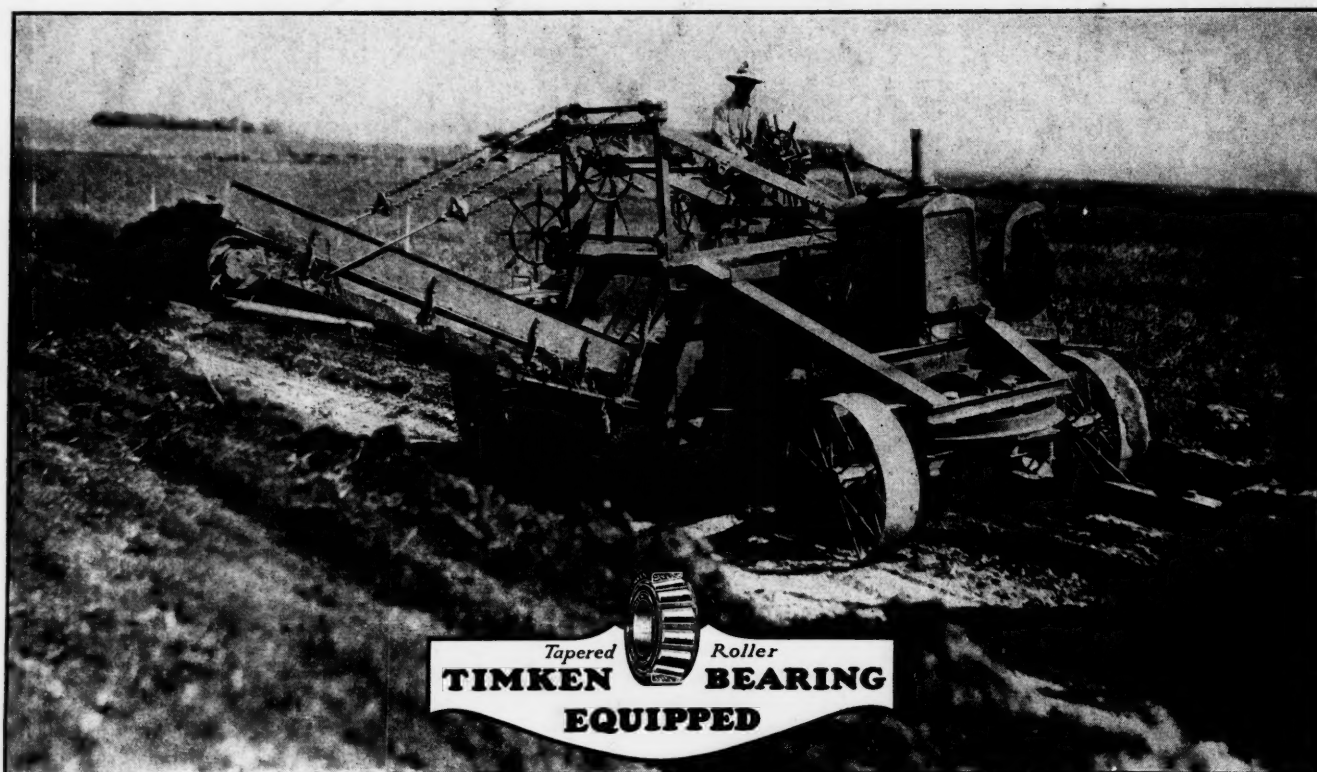
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